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An Experimental TREATISE of

SURGERIE,

41
In Four Parts. ~~X~~. 11. 13

lib. rar. 16

1. The first Part shewing the dangerous Abuses committed among the Modern Surgeons.
2. Of Cures of all sorts of Wounds in Mans Body, from the Head to the Toe, and of other Infirmities belonging to Surgerie; how the same ought to be observed according to the Fundamentals of Art, to be handled and cured.
3. Of the Symptomes of Wounds, how they are to be discerned and known before they appear, what they foretell, how to prevent them, and how to cure them when apparent, &c.
4. Treating of all kinds of Balmes, Salves, Plaisters, Ointments, Oyles, Blood-stenchers, Potions, Tents, Corrosives, &c. which are used for Wounds, and have been mentioned hitherto in the former Parts of this Book; how they are to be Artificially prepared, and used well. All which are very plain, and easie to be understood and managed, by an ordinary capacity.

By that most famous and renowned Surgeon,
FELIX WURTZ, Citie Surgeon at *Basell*. The praise of
whose worth you may read in the following Epistles, the worth
it self in this Book.

Exactly perused after the Authors own Manuscrip, by *Rodolph Wurtz*,
Surgeon at *Strasburg*.

Faithfully the second time Translated into *Neather Dutch*, out of
the twenty eighth Copy printed in the *German Tongue*, and now also *Englished* and
much corrected, by ABRAHAM LENERTZON FOX, Surgeon at *Zaerdam*.

Whereunto is added a very necessary and useful Piece, by the same
Author, called the CHILDRENS BOOK; Treating of all things which are necessary
to be known by all those, to whose trust and overlooking, little Children are com-
mitted.

London, Printed by *Garrude Dawson*, over against the *Black Horse* in *Aldersgate*
Street, and are to be sold at the Book-sellers Shops. 1656.



231310

TO THE
HONOURABLE,

Wise, deep Learned, Sr. CLAES
PIETERS TULP, Doctor of Phy-
sick, Counceller and Assessor at
AMSTERDAM.

SIR,



It is Gods Will and pleasure to
make it a duty to every one, to
do good unto his Neighbour,
which befitteth every one in
his calling to express that du-
ty according to the gift God hath bestowed
on him : your Honour is herein well dis-
posed, to put to use that talent you have re-
ceived ; no better opportunitie may be had
for it following the calling then this present
work : in which simply is presented that,
which another with great toil hath brought
together for the benefit, and comfort of
fore wounded Men : it being the twenty
eighth Copie published in the German
A Tongue,

THE EPISTLE

Tongue, still augmented and corrected by that most famous Surgeon *Felix Wurtz*, City Surgeon at *Basell*; whose notable and good doctrinals I have successfully practised these many years, which urged me to undertake the Translating of it into our *Belgiak* Tongue; the rather because I am well versed in the *German* Tongue, counting it worthy of our Nation, to the praise of that greatly experienced Surgeon, and the benefit of our people. And knowing your Honour a sound Doctor in Physick, not onely well experienced, but doubtless well seen also in the *German* Tongue, and a great practitioner in Chymicks, and deeply enlightened therein: in consideration whereof, I present this out of a good affection to your Honour, the rather, because Mr. *John Watschaert*, Stationer and Printer, hath recommended your Honour very much, knowing my intention was no other, but that I would Dedicate this my labour to a Learned Man. To which end I present it to your Honour, praying you would be pleased to peruse it, and upon your worthy judgement to commend it to the judicious, and to protect it against the ignorants, in the

DEDICATORY.

the way your Honour shall think most fit.

Therefore Honourable Doctor, be pleased to accept of it favourably; to that end that those, which are of mean capacitie, and are of small gifts may be encouraged by your gracious acceptance, and may put out to use their small talents also for the publick good, which happily may be practised shortly, if your Honour be pleased graciously to accept of it; it will be an encouragement to the desire of my affection, to get new supplies the more willingly to accomplish that which is begun, that I may speed the better in the pursuit of my intention, as well in the hitting of the sense, as in the framing of the stile, I thought it to be necessary, to take in hand the readiest means, as to help my neighbour in the speediest way, and through the same means also to get into practice the more conveniently. Therefore with the greater courage I dedicated this my labour to your Honour, as a well expert Dr. in Physick, to the end, that when your Honour hath perused it, to receive better instructions in that, where I mistook. Herein I seek no other, but your Honours good affection towards me, not only to protect the Work,
but

THE EPISTLE, &c.

but also to learn some good instructions from your Honour in Surgery, as being necessary for my calling. If I might be so happy in such enjoyment, I should value it at the greatest rate of my worldly things. Your Honour hath greater judgement of the utilitie of the work, as well of its Manuals, as of its Medicaments, more than my expressions can reach at; notwithstanding I have followed them in Surgery above these nineteen years. I commit most humbly this my labour to your learned and grave judgement, and my self into your gracious favour, thus closing I commend your Honour into Gods most gracious and fatherly protection, to keep your Honour in health, to the welfare of his Church, and the good of his People: Amen. Dated at *Zaerdam*, the 28. of *October*, Anno. 1632.

Your Honours most

willing Servant,

ABRAHAM LENERTZON FOX,

of *Affendelf.*

To



To the Iudicious READER.

Comtcom Reader.

SOME years agoe my friends prevailed with me to take in hand the translating out of the German Tongue into the Belgick stile, this present Book of that most famous and well expert Surgeon Felix Wurtz, Citie Surgeon at Basell: I undertook it, and having done the most of it, an unavoidable obstruction fell in, whereby the work was left, by another to be finished; who as much as he was able to do took it in hand, to further the publick good: but being not so well expert in the German Tongue; some of the Simples were not well translated. These Copies being spent for the most part, and since that Book was at severall times new printed, with augmentation and correction: thereupon I thought it good, to undertake the second translation into the Belgick stile; in respect of the great utilitie of it, how necessary it would be for many young men and Novices in that profession, who having been Apprentises to good Masters, undertake to cure such and such accidents as may come into their hands, which they hardly understand any thing of; such young men must put their greatest confidence to the severall doctrines and instructions of expert and good Authors, among which this (though but small) ought to have not the lowest place, being well expert in his wayes, plain in his doctrinals, and prosperous in his manualls, perfect in his preparations, and correct in their use. All these in my judgement, will be very usefull.

THE EPISTLE

usefull to Novices and others in Surgery; the Book is but little, of no great price, easily used; the Medicaments set down in it, though they are not costly, yet they are approved. From thence as well Masters, as Novices may draw many useful good and subtile instructions, and perform many cures on pained and tormented hearts. In consideration whereof, I took in hand this present translation out of the last Copy, which by reason of its special utilitie, was reprinted then the 28th time in the German Tongue, and by the Author perused, augmented and corrected, whose practicall wayes I have followed these nineteen years, and successfullly performed many good and notable cures through Gods blessing. For I declare upon experience, that one time through means of his Fracture Plaisters (next unto God) I preserved a young mans life, whose right legg was broken, and his shin bone stuck in sand half a fingers length being at Sea ten weeks, enduring all manner of tempestuous weathers, set him upon his legg, though somewhat shorter; his Sea business made him stir his legg too much, putting the Fracture to a wider gape, which occasioned that the Fracture could not so well be kept together, besides the wound requiring every day a second dressing: the marrow did run so fast, that the maggats without the wound next to the band grew on, which I killed with the black Ointment, and kept them out of the wound, notwithstanding we were then in a very hot climate in the West Indies.

Consider how pleasant his Manuals are in Head and Eye wounds, and their accidental difficulties. How neatly he describeth the wounds of the breast and belly, and the cures thereof. Take good notice of the use of his band and dressing of a Fracture, which are of several sorts; what notable examples he quoteth of several cures?

TO THE READER.

cures? How lively he describeth the several Symptomes, and their cure? What shall I say more? Doth he not write of the several signes and fore-runners of all accidentall difficulties, which may be incident unto all sorts of wounds? In brief, he is an extraordinary good and usefull Author, in my judgement, especially for young beginners in Surgerie, comprehending so many things in such a small volum; nothing derogating from other good Authors. For he teacheth so lively, and handleth the several Symptomes so well, as ever I saw in any Author, well understanding the things he writeth and maketh relation of. Considering these things, it was a motive unto me, to set it over into our Belgick Tongue for the publick good, to the end, that those which do not understand the German Tongue, may have it in their mother Tongue to make the best use of it. I intreat all those, into whose hands this work cometh, to accept of the Translators good will, and in case some Herbs and Simples are found untranslated, which will be but very few, let the Courteous Reader understand, that these Simples are left so, because in Germanie they call them in one Province by such a name, and in another Land they have other names for them: herein the Reader may have good help out of the Belgick Herball; and this I am certain of, that I used but few names of the Germans. Thus I recommend to the courteous Reader this my labour, and my self into his favour, praying withall that those who know better, would be pleased to do better. Dated the 2. of October, 1632.

Your Honours most willing Servant,
 ABRAHAM LENERT ZON FOX,
 Surgeon; born at Assendelf,
 dwelling at Zaerdam.

Doctor JOHNSONS Epistle, to the understanding READER, he being the main cause of the Translation of this Book.

GENTLE READER,



*I*ndeavour not to hold a Torch to the Sun; I am conscious our Age and Nation afford us many excellent and expert Chyrurgeons, and strive not (ex novo sence haurire aquam, quasi ex eo dulcius peteretur.) I bring my judgement accompanied with the best of our modern Authors, nor find I any whose experience have raised any note of excellencie upon them, but they have added some Eucorismum to my Authors worth. I will begin with Joannes Baptista Vanhelmont, a man of a Noble Family, not easily parvell'd, and present him unto you in his own Language.

Felix Wurtz modernorum Chyrurgorum meo judicio patesignanus. Page 214.

I shall second his apprehension with that of Joannes Antonidæ Vander Linden, who in his Manuductio Medicine studiosæ juventuti, page 234. sic scribit. Abunde me vobis prævisse puro, ad auctorum non tantum selectionem, lectionemq; sed universam insuper rationem studij vestri medici bene incipiendi, et cum fructu promonendi, et cum hunde perficiendi; sane ad scopum hunc acriter tonsis ingenij mei nervis collimani: ut ipso usu discatis, quanti sit aliquo per ignotam vium proponanti ductorem esse fidum, qui itimeris omne compendium monstret. Et idcirco Astoriscis signani indices eorum, quos aut Plempius meus aut ego singulariter commendatos habemus cupimusq; Nos si auditis, hæc suffici aut studiorum instrumenta. Amongst whom Felix Wurtzius de vulneribus curandis, is marked.

Glandorfius and others mention him with honourable respects;

nor

TO THE READER.

nor can I conceive if his method had been vulgar and common, the Germans would ever have printed him eight and twenty times in his own Language, and twice in the Belgick. I presume the Epistle Dedicatory, and Epistle to the Reader prefixed, speak so liberally in my Authors commendation, that though I were silent, he need no greater applause than the general fame of his worth to set him forth to the world, who hath so much admired him.

Other Nations have made such honourable mention of his practise at Basell, with such happy successes, that I could not so much undervalue his worth, as to conceal and eclipse him, from our English Character and knowledge. Therefore now having (upon the importunisie of some friends) presented him to publick view, not binding him up under the protection of one Man, but giving him free leave to sojourn all the Nation over, that he may do the most good he can, not in the least questioning, but that he is able to make good shift for himself, in the greatest difficulty, though but a stranger in this Land; for I do not in the least think, but that he will meet with very many Carpers and Cavilers, may be some upon this account, because he is not Dedicated to some learned English Doctor; but let them know, that when he was in his native Countie, he had a worthy Defender, the same of whom, (though he be dead) still is able to protect him from scandalous and reproachful speeches. Now as for the judicious and understanding Reader, to whom especially I present him, I humbly desire him, to consider the frailty of Mans nature, that if he find any thing, either not perfectly Translated, or mis-reprinted, lovingly to amend it with his pen, and defend its cause therein; and still to ascribe that which is good in him, to the Praise and Glory of God: in the doing of which, he will very much oblige his friend, and servant in the like case.

WILLIAM JOHNSON.

TO THE READER

THESE are the first of a new series of
volumes, which I have the honor to
present to the public. They are the
first of a new series of the History of
the English Language, and I have the
pleasure to announce that they are
now in the hands of the printer, and
will be ready in a few days. The
first volume contains the History of
the English Language from the
beginning of the world to the
present time. The second volume
contains the History of the English
Language from the present time to
the future. The third volume
contains the History of the English
Language from the future to the
end of the world. The fourth
volume contains the History of the
English Language from the end of
the world to the beginning of the
next world. The fifth volume
contains the History of the English
Language from the beginning of the
next world to the end of the next
world. The sixth volume contains
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from the beginning of the next
world to the end of the next world.
The tenth volume contains the
History of the English Language
from the end of the next world to
the beginning of the next world.

WILLIAM LONDON



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viz. FELIX WURTZ, a famous and expert Surgeon;
Treating of infirmities and defects of new born Children;
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to whose trust and overlooking little Children are commit-
ted.

OF



Of the dangerous abuses committed among the modern SURGEONS.

The First Part.

CHAP. I.

*Of the original of Arts among men; and of some sort of Wounds,
treated of in this first Book.*



OD Almighty having Created man, among other gifts, he bestowed also on him a Knowledge of good and profitable Arts, wherein he was compleatly furnished, if so be, he had continued in that state, in which the Lord at first had created him; but not staying there, and being misled by the Devil, falling into sin, then he lost those good endowments also, wherewith he at first was adorned; and fell from the light of Knowledge into a darkness of Ignorance: whereupon he was put to it, with great paines and industry to recall them to his mind again, and in part to recover that, which formerly he had been endowed withall: and we see, that men naturally are thus qualified, that they are able

B

either

either to speak, or to practise one Skill or other, be the degree thereof what it will, as we see in Musick, Arithmetical, and other Arts. That the like was happened also unto Surgery, is no question. For though a physical Skill had been needless, if man had not sinned; yet is it certain, that all things, which God had from the beginning created to be medicinal, were more effectual and operative, then they are now adayes, the which doubtless was well known unto man: but having lost this Knowledge through sinning, and there being a necessity of a physical Knowledge, by reason of the multiplicity of infirmities he made himself subject unto by sin, then he began to look for that, he lost, as much as lay in his power, knowing and finding in himself, by the help of that little spark which he had left to him of the first Light, that such infirmities and diseases might be prevented by remedies. Hence we observe, that few men are found, which do not know either how to help or how to advise in time of sickness, be it in any kind. Being it is so, as I hope none will gain-say it, it enforced me to write somewhat of Surgery, for the benefit of the Novices in Surgery. I should at first speak of the meaner and slighter Wounds, which being known for the most part how they may be cured, and generally the practise thereof professed; I hold it needless to write of them, and so I begin with higher matters.

Note therefore, my intention is not to treat of slight Wounds in this Book, when the skin onely is cut, which either Nature or an old Woman may cure; my purpose is to speak of dangerous Wounds, in respect of the place, or of the blow, which are subject unto symptoms accordingly, as when not onely the skin is cut, but the flesh, sinews and arteries, and other things are hurt: slighter wounds are easily cured, but such, whereby Nature is suppressed, requires more skill, which by long experience is attained unto. Therefore marvel not, why I do not mention at the beginning of my writing, how slight cuts and wounds may be cured, because their cure is generally known and practised.

CHAP. II.

How the abuses did arise, and were brought forth among the Surgeons themselves.

IT is free for every one to set down in writing that which he experimentally found, and to publish it for the benefit and information unto others, as a thing which concerns the publique good, and we ought to be beneficial unto our neighbours, and to warn him of dangers, as we would have done to our selves: which hath been a motive unto me to write of wounds, as I found it in my practise: And in the first place I advertise of the gross and dangerous abuses, which are committed at the curing of wounds (to say nothing of old sores) to the greatest prejudice and danger of poor patients.

Doubtless all expert Surgeons will acknowledge, that a Skill in Surgery is obtained with great painfulness; for it is not gotten with sitting on a cushion at home (as many suppose) by reading and writing, but a long and industrious practise is required, if so be that men intend to be call in it, unto which great travelling belongeth also.

Therefore he that studies to get a name of credit herein, ^{How Sur-} must visit in his travellings expert Surgeons, and to learn of ^{gery is learn-} them what they have seen in their practise, and to observe ^{ed.} their Manuals, which are learned when they are seen done, and in that way committed to our trust: and when we have been ocular witnesses in their practise, then may we be enabled to do the like. It is not enough to be full of talks, and to say, such and such write so, and if these Writers should be asked, from whence they had it, it may be, they will direct us either to a Nun in a Cloyster, or to some old Woman, from whom they had it, and in the upshot it proveth meerly an accustomed thing, whereas Surgery ought to be grounded on a sure science, and not on an opinion. A Painter, what is he the better for it, if he can discourse well of colours, and prateth much, how this or that ought to be painted,

painted, when himself cannot hold a Pencil, and hath no skill to paint? his prating will give no content to him that would have a picture made by him: even so it is in Surgery, a patient is little the better for it, if his Surgeon be merely talkative, and hath no skill to dress, ease, or cure his wounds. From thence, in my judgement, arise all manner of faults, errors and abuses in Surgery, when experimental Knowledge is wanting, when men are full of words, but empty in the practick part. For when Surgeons are all upon discourses, and take their experience from thence, needs must they be faulty in their undertakings, relying onely upon their Authors; what is the Patient the better for it, if Medicines are not aptly and duly applied.

Of Poachers
and
Quacks.

We are to note how these abuses creep in: whence fellows, start-ups, that have cured the Scabs, Morpew, or such like, then are they cryed up for Surgeons, and when some hardly come out of their apprenticeship they also must instantly profess Surgery, and if their Masters have been Ignorant's, what can be expected from their Apprentices? if these do seek no further, but what they had from their Masters, which knew little enough, then we know what these may be confided in. And thus they play on upon the old Fiddle the old tune continually: yea, it happeneth, that the old things are counted best, and new ones, which are better, are rejected: old naughty things long practised are still cried up, not considering, that naught will be naught, and never good, though it had been practised a thousand years, but rather will prove worse.

CHAP. III.

Of the abuses committed in stitching, the danger that ensueth from; the true use of stitching: to benefit Novices in Surgery, who otherwise might approve of such abuses.

Hitherto I have spoken of the abuses in general, which basely disgraced Surgery: now will I speak of the abuses in

in particular, in what, wherewith and how they happened, and what inconveniencies they caused: and finding this Profession clogged abundantly with gross abuses, made me to observe no order in the rehearsing of them, and I took in hand that which came first, speaking of it plainly, briefly, as much as possibly may be. Let the Reader not be offended with my stile, much differing from other Authors concerning Surgery, whose artificial description of Cures, with their secret mysteries, are not unknown unto me, having judged them long agoe to be foul, useles and naught, and never defiled my hands with them.

First of all I begin with stitching, where several abuses are found, causing intolerable dangers.

Touching stitching, it is to be noted, that I neither condemn nor disprove this or that meane, which shall be spoken of hereafter, which are of good use, if seasonably and in a due measure used and applied: but if neither in season nor measure they are made use of, then are they not onely useles, but very hurtful also. My meaning is not, that because things are abused their lawful use should be taken away also. My assertion is, that stitching doth good, and is of good use, if time, place and other circumstances are exactly observed: but if used indiscreetly, not regarding of the circumstances, then is it not onely useles, but very dangerous.

Stitching is granted and permitted, and is of singular utility, not in all places, nor in any wound, but onely when and where there is a necessity of it. Stitching may be used where any thing is cut, as in Hare-lips and such like, item Eares and Nostrils may be stitched, when they grow downward, or hang over, and so in any other part of the body; and in the cheeks, or elsewhere, when a great flap hangeth downward, the which I call a flap-wound: in such cases stitching is to be used, provided, that the wound at first be not over-burthened; and it matters not, whether you stitch it with twisted silk, or white thread, or use a stitching plaister, which is made thus:

℞ Gum Tragacanth and Arabick, Mastick, Frankincense, Sarcocolle, *ana.* one drachm.

B 3

Mingle

Where
stitching is
permitted.

Mingle these, reduce it to a subtil powder, take the white of an Egg, beat it with a spoon to a froth, let the froth settle to water, imbibe the powder with it, with this Ointment spread your linnen, with stitching may be thus performed likewise: dissolve the brown ointment, put it into wounds in such places, where it conveniently may get in, then stitch it closer, the stitches must be two fingers breadth asunder: in joynt-wounds the stitches must not be so close together; in case the wound be above the shoulder, or above the knee, then two close stitches may be made, that the one may keep and hold up the other, otherwise each may tear out. Betwixt the two stitches there must be left an open place, to put tents in, to cleanse away the matter and moisture. Note further, touching wounds upon joynts, that these wounds must be with double silk strongly stitch'd, more than other wounds usually are, else they break and tear out: if you stitch a wound on the shoulder as you do one on the belly, that stitch will not hold one day or night.

Touching other wounds and stabs (few excepted, be they what they will) there stitching is not onely not good, but extremely hurtful, and causeth a great deal of misery and pain, which must be avoided if you will be upright in your dealing.

Now to speak of abuses, I know it very well, that stitching is of common use, and so common as any thing is in Surgery, and used almost by all: (I say almost, because some there are found, which know not what belongs to stitching.) Besides this good custome, this additional came unto, that they set upon the several stitchings several prices, which custome prevailed so much, that some Surgeons press it to the utmost, and stand upon it, not regarding the hurts and dangers caused thereby, and poor people durst not say one word against their demands. Therefore let me talk a little with such, which stiffely would have all kind of wounds stitch'd (though they understand little or nothing of it) to make known their ignorance, not to that end, as to disgrace their profession and skill.

Stitching is
used of old.

True, I am not ignorant of, that stitching hath been
com-

commonly practised and used, and that it is of an antient use and custome, but I do not say, that it is ere the better for it; for things antient, things common, are not therefore the better, else many evill customs and abuses must be approved of, which, as naught, are most justly rejected.

For any Surgeon must needs confess and agree with me, and it is undeniable, that wounds ought to be cured fundamentally, not superficially; for if wounds be cured outwardly, and the inside and bottöm of it be still unheal'd, as it often happeneth, what can ensue thereupon, but a dangerous and incurable fistulâ, to say nothing of other inconveniences? Thus you see, that there is no reason at all, why any wound should be first stitched together.

Some say, that through stitching the lips of wounds are joynd orderly, which being neglected, the wounds gape wide afunder, which with stitching must be prevented: I know it very well, that the lips of wounds are drawn together through stitching, and kept from gaping, but how wisely it is done, and what good it doth, let men of understanding judge! For those that do such things, little do they think, that wounds stitched either do soon rot, or soon break out, and thereby the wound comes to its old gape and shape, yea, often groweth worse than it was at first. Moreover, if so be, that the stitches keep long to the wound, then the silk-threed consumeth in the flesh, which causes worse scars from the stitching, than the wound it self would, besides that, the threed is obstructive to the healing of the wound, sliding up and down in it. Neither do these men once consider, which is the chiefest thing, that any wound (let it gape nere so wide) by a natural inclination and quality groweth closer every day more and more, and that from beneath upwards, and from within outwards, as much as every dayes healing comes to: and thus that inbred and natural quality drieveth on from the beginning to the end, so that the lips of wounds are found closed, and cause smaller cicatrices after healing, then stitching would have done. For a wound press'd and stitch'd together, that wound leaveth not onely a scarr behind, but also every stitch causeth one,

one, which after healing sheweth ghastly: if there be any dangerous wounds, the same may be helped with lints, whereby they may the sooner and easier be closed. For good bindings are of great consequence, as you shall hear hereafter. But stitching is wholly naught, except in some few wounds is it necessary, which partly were mentioned, and partly shall be spoken of hereafter.

Seeing it is manifest and known, that wounds ought to be healed fundamentally, and by no means from above downwards; therefore it followeth, that medicines must come to the bottom of wounds, where must be laid the beginning of their healing: and if a wound be stitched in the outside, how can the ointment come to the bottom of the wound, where it should first of all begin to work? Truly, if a door be shut, then they use to say, stay without till the door be opened again.

Worms in wounds. Sometimes it happeneth upon that reason, that worms grow in wounds, caused by the matter in wounds, choak'd up there; for the wound being stitch'd, it was so obstructive, so as that the medicine and ointment could not penetrate to the wounds in most places, as Nature was desirous it should.

And when such symptoms fall out, then they look out for all manner of remedies to destroy and to kill these worms, whereby the wound in its healing is not onely hindered, but is made also worse and more dangerous, and poor Patients are thereby most miserably tormented. Therefore such Surgeons, which suffer worms to grow in wounds, deserve to be punished severely and exemplary; the rather, because such mischief might have been easily prevented, and that onely with common Sallade oil; much more could their growing be hindered with sharp and bitter things.

Medicines must penetrate to the bottom. Surgeons, God be thanked, may be had, which understand well enough how wounds ought to be cured, and that it must first of all be done from within, and the medicine applied must penetrate to the bottom: and if wounds are stitch'd close, how can they apply any medicine to the bottom of the wound, without putting the Patients to great pains? for they take tents, roul it in their balsoms or ointments,

ments, and force them in betwixt the stitches to the bottom of the wound. Some, to mend the matter, instead of such tents or lints (Mullipuffs) take grosse strong weeds, and thrust them to the bottom of the wounds, and so, according to the common saying, they afford the wheel, instead of the Gallows, to be executed withall. But what reason they have to do so, and whether it be available and good, let them answer. How doth it sound, or stand with any reason, to stitch a wound together in the outside, and to tear it asunder afterward betwixt the stitches, with lints, or mullipuffs, tents or weeds? I say nothing of other mischeifs, which are caused thereby, as truly understanding men may easily judge of it: and to say nothing of the extream pains, and grievous smartings, which are inflicted upon the wounded, when their wounds are thus scoured, even as Musquetiers are scouring their Musquets after much shooting.

Furthermore, it is well known, and cannot be denied, that every wound ought to be kept clean, and to be cleansed from the filth, which the blow brought in, and other uncleanness incident unto. Now if a wound be stitch'd, how is it possible to cleanse it daily, as it ought, the stitches standing in the way, and are obstructive to the cleansing of them? And though they partly may be thus cleansed, how can it be done without putting the Patient to cruell torments, which in conscience ought not to be? For they must gripe, feel, sound, thrust, this and that way, and many things besides, which are required at such cleansings; whereby the healing is often hindered, and contractures and lameness are caused. Men should consider, that wounds cannot so soon and so well be healed by pressing the matter out of them forcibly, as then when the matter comes forth freely without any let, through Natures driving it forth out of wounds.

Wounds
must be
cleansed.

Things hitherto spoken do not suffice, more must be said yet, which serve to our purpose very much, touching stitching of wounds, it is generally known, and plain, that all wounds, be they what they will, are of that condition, that they will swell a little, and naturally extrude their cor-

Stitching
hinders
healing, and
causeth
lameness.

Stitching
hinders the
swellings of
wounds to
their preju-

ruption and matter. Seeing it is so, and none can gain-say it, therefore the judicious may easily conceive, that if a wound of its own accord is swell'd, the door or lip of it is thicker than at other times, and so generally wounds always strive to gape. And if in that posture they be stitched, as their usuall way is, then is that wound in that natural swelling hindered, and so cannot enlarge it self, as it should. Then it begins to spawn and swell, whereby nothing else is caused, but an inflammation of the wound, to the greatest misery and unspeakable pain of the Patient, which this rash and intolerable stitching hath caused, against which there is no remedy, till that anger in the wound be past, and the wound cast out its matter. Now when the strength of Nature hath overcome this Surgeons skill, I should have said, his abuse, and other symptoms (which struggling is no sporting to the poor Patient, because his skin lieth at the stake) then the wound inclineth to a rest, and fitteth it self to healing. But it happeneth many times, that the wounds presse hard with the stitching, insomuch that of necessity they burst and break, whereby the wound is made bigger, wider and more dangerous than ever it was before. I pray to what end were the stitchings used, but to torment the poor patient the more? These and the former things are noted to that end, that it may appear to every ones eye, that a stitch'd wound doth not heal so well as those which are not stitch'd and left free, for reasons mentioned above, needles to be repeated here.

Stitching
hinders the
judging of
Symptoms.

Moreover (which is the chiefeft) this must needs be granted, and in no way contradicted, that the signs of accidentals in wounds are chiefly judged and discerned from the bottom of wounds. Now if a wound be stitch'd, how is it possible, that symptoms of wounds can be discerned and judged rightly, when they may not be viewed within? This maketh me wonder the lesse, why so few Surgeons are found, that have any judgement in symptoms of wounds. When the wounds are quite healed, then are they puzzled, not knowing what excale to make, not knowing the cause, why swellings and other symptoms remain, nor how to cure those

those which they had healed, dawb'd up, and choak'd up. Then they fall to washing, bathing, anointing, salving, binding and the like, whereby they suppose to remedy and to expell all these symptoms, which themselves have caused: why could they not consider of it afore, whilst the wound was open, and could then see it plainly, what will they undertake now, when the wound is shut?

Note one thing more, which I had almost forgotten; it happens sometimes, that one being wounded in the hand, or else where, where there is little flesh, and many white veines and arteries: if a Surgeon, that will hear of nothing but of stitching, hath it in hand, how soon is it done, that he thrusteth the needle through a sinnew or blood vein, pulls the threed through it, and so stitches them altogether? I tell you truly, that through this rashness and indiscreetness most dangerous and worst symptoms are caused, that ever may be imagined. For how can the blood-vein be stretch'd, when a threed is thrust thorough, and how can the anger of the sinews be allayed, when the threed is drawn through it? It happeneth many times, that through this needles stitching of the sinews, is caused the running of sinews, and how can they come at it to stop it?

Sinnews are taken hold of by stitching.

It is beyond expression and beleif, what great dangers are caused with such unnecessary stitchings: I could quote many examples to that purpose, if it were needful, how by these abuses Patients were brought to extreame miseries, and to the losse of their lives, who might have done well enough without this stitching, being in no danger of life at all.

Thus much be spoken of stitching in general and in particular; when I come to the practick part, perhaps I shall speak more largely, and make every thing more plain to the understanding.

Now follow some necessary observations touching stitchings and wounds, which are worthy to be diligently considered. Charge not the wound with too much stitching, have a care of the evenness in stitching, make not crooked stitches, take hold enough, else it teares out, and the wound groweth ghastly; do not begin to stitch at the end of the

graduated
behold
the

wound, but just in the middle: begin with that lip first, which is the fitter of the two: stitch none of the loose pieces of flesh, they will assimilate no more: Let the wound have air above, thereby to put in the ointment, and leave open below, that the matter may get out: bind the wound not too hard, else it will swell, be the wound on the hands, feet, or any other member: the wounded members must be laid even, not shelving or downwards, else that member will swell: and your bindings must not be too slack, that no air may get in betwixt the bands: let the party be quiet, and neglect him not in dressing, else the bands will stink and rot; let the bands be not hot, else an Imposthume will befall that member, and be not over hasty in your binding, else cramps will be caused, or a consumption may be incident to that member. Stop not the wounds with weeks and such like, that the matter swell not, and below the wound holes be caused, which usually turn to fistulaes. Be not sparing in your salve and ointment at first; and let not the ointments quantity exceed the matters, which otherwise overtopping the ointment, would make it of no effect. Have a care, that the stitches break not, else they will cause scarrs, but supply them with stitching-plaisters.

CHAP. IV.

Of abuses committed in blood-stenching with Corrosives, healed Irons and the like, and the dangers or hurts which ensue upon it, illustrated with some examples.

Sten-
ching
of blood is
necessary.

BLOOD-stenching in Surgery is a very necessary point, in-
somuch that without it little is effected. For Patients loose their lives if they bleed too much; neither are the medicaments effectual, if by a continual running of blood they be hindered in their operation: and where there is a necessity of blood-stenching, there it ought to be used and applied according to Art. And, God be thanked, Surgeons are found, which have reasonable judgement in it,
and

and know how to stench blood, and use it without any prejudice, but rather to the great benefit of their Patients.

But the ruder sort goes to work basely, whose number alwayes overtops the better sort, and refuse better instructions, keeping and sticking to their old wayes, obstinately observing their abuses, even as when they intended nothing else but the ruine of their Patients: I speak of such onely, which use Corrosives, supposing the stenching of blood must be effected onely with nealed Irons and other burning meanes; among others, they use sublimed Mercury, crude or sublimed Arsenick, calcined Vitriol, *Alumen Plumosum*, *Caput mort* of *Aqua fort*, *Euphorbium*, and such like things, whereby they suppose to stench the blood: Some there are found, which, to mend the matter, take one or two of the mentioned things, put them together, and mingle other medicaments among it, as *Bole Armoniack*, *Terra sigillata*, Millers dust, *Crocus Martis*, and such like. This they hold for a rare Secret and Master-piece, calling it, a sharp Blood-stenching, not without a cause, for it is sharp enough, nay too sharp.

Blood-stenching abused.

It is a great pitty, that these and such like things must be cried up for rarities and master-pieces, whereas they are nothing else but heavy and dangerous abuses and errors, whereby infinite wrongs are done. For all those above mentioned things, one or more of them being used to a fresh wound, for to stench the blood withall, effect or do little or no good at all, which were tollerable yet, but they cause thereby infinite wrongs, and do no lesse therewith, as if they had strayed the wounds full of venom.

Abuses condemned.

Tell me, I pray, if a wound bleedeth vehemently, and you will stench it with one of the above named materials or corrosives, when you stray that powder into, doth the wound cease to bleed presently? Whoever affirms it, I deny it: For these materials in and outside I know very well, and understand, whither they have any efficacy in them to stench blood presently, yea, or no? Must not the Wound, being straid full, be bound up, with cotton Wool, plaisters and the like, that the blood may not issue forth? Now vwhen you

have thus bound up the wound, and stench'd the blood, so that it can run out no more, could you not procure also that the in-strayed powder should not work in the wound, and that the corrosive, which pulleth the running veins together, cannot effect that, because the running blood driveth it back, and washeth it away? For if a wound be carefully bound, so that no blood can run out, then of necessity the blood is stench'd, and congealeth in the Wound. This being done, then the corrosive incorporates with it, and begins then to work, that is to say, to rage, to eat and to burn.

Corrosives
are hurtful
extreamly.

I would fain know here, of what use Corrosives are in blood stenching, as long as the blood congealeth without such fretting things, and may be stayed onely by a careful binding of the Wound? Perhaps you think the Patient is not sufficiently tormented, unless you put more affliction and plagues upon him: you imagine the Patient is not weak enough, and so with your sharp Corrosives you must make him a Martyr. Ah how many veins! ah! how many sinews, which are not hurt at all by the blow, nor toucht, are eaten through by your sharp corrosive blood-stenchers, and are forcibly torn in pieces, or at least benumbed or mortified, which would not have been so, if you had not medled with them. Are not lamenesses caused thereby, and much wrong and evill inflicted upon Patients, whose Wounds might have been easily cured, if they had been dealt honestly withall

Example
of one
whose blood
was stench-
ed.

I knew one, who professed Surgery, he was to stench a bleeding wound: He took his powder (of the which he boasted much) thrust the powder into the Wound with some cotten wooll, bound it up, supposing he had done enough at it: a little while after the Patient cried out extreamly, complaining of his paines, by reason of the raging and burning he felt in the Wound. I asked the said Surgeon, what he had put into the Patients Wound? He was loath to reveal it, because he held it for a great Secret and Master-piece: however upon my importuning he said, it was calcined Vitriol, and *Gummi Euphorbium*, sublimed Mercury, mingled

mingled with *Bols* and *Terra sigillata*, and a little quantity of Vinegar among it, which he called quenching. This was his great Skill and Secret, wherewith he usually bound up Wounds. But what happened? He did more hurt then a wound twice as big would have done. For though this mans Wound was not such, where a lameness might be feared, yet was he made a Cripple, because this corrosive powder hath corroded and eaten off his sinews, which were not hurt at all: I pray what sympathy have these said simples one with the other; especially *Terra sigillata*, *Gummi Euphorbium*? In like manner many Receipts are screwed together with a company of simples, which do fit as much, as a piece of new cloth a Beggar-patch'd coat of severall sorts of old rags; all this is no sport or pastime to the poor Patient, whose skin must reach for it.

These abuses hitherto shewed, about blood stenching, are great and grosse ones, whereby incurable hurts are caused; and yet are they not comparable unto those which are committed with hot Irons, whereby the Patients wounded veins, sinews and other parts are drawn and shrunk together, and haled, as if pulled by a horse. And this is held a great Skill amongst many; but it is, in my opinion, such a terrible Skill, which meerly belongeth to murders, and I am easily persuaded, that Hangmen have taught this way at first: Others, that will outstrip their fellows in their Skill, take cotton wool, thrust it lighted into the Wound, whereby they suppose to have done well for the good of the Patient.

But as I have said in general, that I reject nor condemn blood stenching, but rather hold it necessary and allowable, as occasion serveth: neither do I wholly condemn hot Irons to stench blood withal, and hold it to be of very good use in Surgery, as at the off-cutting of a member, at the thickest part in the thigh, and in two or three places more; as when an Excrecence is to be cut off, or other things, well known to judicious Surgeons. But that it should be of any use in wounds, there I deny it absolutely, and am fully persuaded, that nothing but misery thereby is caused. For as soon as the little white veins feel the heat of the fire,

Abuse of
hot Irons
in blood-
stenching,
which cause
great hurt.
A horrible
Skill.

to be used
in blood
stenching
or to be
used in
blood
stenching

fire, they shrink presently, grow shorter, and may never be brought to their former length; all judicious Surgeons must confess so much. Unto which misery this is incident also, or rather will ensue thereupon, that a Wound thus burnt will never heal so soon, and so well as those will, which never had such things supplied, the reason of it is known to many. And ah! how many Wounds are thereby inflamed, and the parties lame, when doubtless they might have done better.

Example.

In my youthful dayes I have been an eye witness, how one received a Wound about his temple of four fingers breadth; oh! how was this poor man tortured with Corrosives, with lighted cotton Wooll, with nealed Iron, and the like, being thrust into his Wound, and all to no purpose; for the bleeding of it could not be quenched. All these Surgeons being in a despair about their Patient, whom they thus unmercifully tormented, not knowing what to do any further in this case, they wish'd the Patient to commit himself to God Almighty, which however ought to be done without their grave advise: when all their applied meanes would neither take nor work, there came forth an old Woman, laid some kind of haire on a leather, and laid into the Wound a piece of lint or quilt, and then she applied her plaister: it stench'd the blood, and the Party was healed: was not this old Woman more skilful, and surer in her Art, than all these Surgeons, Barbers, Doctors, that were then present? My self at that time being very young, and unexperienced, was ashamed for their sake, though I had very little judgement, that they professing that Art had so little judgement in it.

Sharp oil of
Mercurials is
said to
stanch
bleeding.

Some sixteen yeares ago there was a young man at B. which received hurt in his buttocks, which did bleed very much, which a Barber-Surgeon could not stench with his sharp blood-stencher, which in that place was held a Master-piece to stench it: What do you think this Barber-Surgeon had done? He took that biting oil of Antimony, prepared with Sublimed Mercury, dipt cotton Wooll in it, thrust it to the wounds bottom, this was such a rarity and secret Skill,

skill, that this young man out-breathed his last within few houses after, for it most miserably tormented him, who might have been very well saved, if this Barber had not medled with him.

If I should rehearse all what miseries I have seen committed by burning of wounds, that did bleed, though I have seen but little, and have but small experience, yet time would fall short with me, to rehearse all, and it would prove tedious unto the Reader, to hear and read such a long tale: besides, I should but pull an old house about my eares, if I should put them to the publick view; and therather, because some ancient Surgeons find some of the above named blood stenchings very necessary. Therefore I let it rest, hoping that judicious Surgeons will take my writing in good part, and gather from thence, that among the Antients there was great ignorance by misunderstanding, as well as there is now adayes, or rather more.

Intolerable
miseries
caused by
burning.

To prevent these abuses, in my judgement there is nothing better to be used in blood stenching, then quilts, lints, or mullipuffs; cotton Wool, or the like.

As for example, if a Wound bleedeth, and the cause of it is unknown, then do not feel, nor stir in the Wound, nor apply any ointment, but onely use a plaister, but in case the bleeding would not cease, then such said things may be used, or any other fitting thing: but if the Wound doth bleed but little, in time when the Patient either walketh or sleepeth, then bind it gently, and apply the plaister, where it bleedeth, then you may soonest know from whence the blood cometh, and if there be any loose or shattered piece in it, which causeth the bleeding; being bound slack, it casts up a ball or soft flesh like coam'd wool, let it be gently press'd in again, it is a sure token, that there is a shattered piece in it, which is not altogether loose, yet striveth to come forth, where lieth a blood-vein, which that loose piece doth hurt when stirred. Now such like things being at hand, no haste at all must be made with, nor search made into the Wound; for that search would put the Surgeon and Patient upon more work, and increase the bleeding; and the

vein, being deeply hid, out of sight, and no coming unto it, would produce new troubles. Therefore onely burnt Allom very subtilly pulverised clapped in and upon, which is strong enough for it, for if stronger or sharper things should be used, they would thorough run the Wound, insomuch that the cure would be delayed where it had been almost performed. That Allum must be let alone, till it drops away, or comes off by melting, and in case it should not come out the next day, then stray more Allum upon it, then it will soon take away that flesh which hangeth on that splinter: but in case that splinter should follow also, and the flesh about it all consumed, then that splinter hangeth yet on a panick, which must come out also. However proceed in the healing, as if there were no such splinter therein, it will loosen of its own accord, the healing will put that aside, even as an old tooth must give way to a young one, even so the new flesh driveth out that piece at the wound easily, insomuch that it may be taken away without danger. Search not with any Iron or Silver Instruments into the Wound, for if you touch any bone or crisse, especially in such members that are full of them, then that joynt will never take any flesh. I give warning to all, I have found it so, desire no more to search: it is a common saying amongst them, because there are more such loose pieces in the Wound, they will have them all out, and feel and search in the Wound like a blind man. It is a great foolishness, to feel, and groap about Wounds, touch them with hard fingers without, and search their inside with Instruments, You Novices in Surgery, when three, five, or more are called together to such a Patient, suffer not the Patients Wound so rudely to be toucht, for I speak by knowledge, and not out of other mens opinions, and know what hurt is done thereby.

Of the Abuses in Phlebotomy; how some supposed to stench bleeding, with an example illustrated.

HAVING begun to treat of blood stenching, I could not chuse but to declare some abuses committed by some Nations, as in *Italy* and *France*, in phlebotomy, where they make many Experiments upon wounded men, in stenching of blood, and in doing other great feats. For if any be wounded among them, falling into their hands, then the next day they open a vein, and that without measure and knowledge, not regarding how much the Patient hath bled already: but what good they effect thereby, may be seen out of this ensuing example, where I was an eye witness.

Abuses in
Phlebotomy.

In a certain place (which for some reason shall go nameless) I saw a wounded party, which had bled very much, and was brought very low thereby; the next day came the Doctor which undertook to cure him, who brought a Barber with him to open a vein of the Patient, who had already lost too much blood; that opened vein could not bleed, because there was but little of blood in it, and that little Nature reserved in store for to help her self withall. This Doctor would needs have blood, and seeing that that vein would not yeild so much as he expected, he caused another vein to be opened, whether that would satisfie his thirst after blood, but little came out of it, and the poor patient died under his hand.

This is related here not to that end, as if I would condemn Phlebotomy altogether for the defence of the wounds: for I have seen more than once, that Phlebotomy hath done much good to wounded men, and fell out very well for their healing. I only related it to that end, because it is used by some very indiscreetly, whereby they did all manner of mischief; true, they give some reason why they do so, as namely, in respect of a rheum which falls down from the head (as they call it, so will I call it also) that it may not altogether fall

Phlebotomy not wholly condemned.

upon the wounded side, but may be diverted, that the wounded party may be in the lesse perill. Whether this be so I cannot tell, nor can I agree with them herein, for the symptoms of wounds take for the most part their cause from the place where the wound is, and not from the head, as I shall make further declaration of it, neither are these symptoms caused by the blood, but rather by the abuses that are committed, amongst which this abuse also (of the which I now treat) may be numbered. It is true, Phlebotomy is used with great utility, in all such wounds, where the wounded have either gotten a Paroxisme of a Feaver, or they fear one, which may be caused either by frights or by anger. Phlebotomy is used also with advantage, when a party hath received a stab in the body, and it is feared, that there is congealed blood in the body, in such a case Phlebotomy is not onely advantageous, but also necessary, when the blow given was done either by force, or with a fall, and the party bled but little: especially in head Wounds, which bleed but little: Such Wounds are dangerous, by reason of congealed blood, which by this meanes may be driven out.

Here I must needs relate a custom which some have to expel congealed blood: For when they have a wounded man in cure, especially if his wound be in the body or belly, and if they suppose that there is congealed blood there, then they lay him on the ground, with the wound downwards, shake him to and fro, even as a Butcher useth to do with a Swine: in this manner they suppose to get the congealed blood out of the body, all which is little to the purpose. And if there be at hand a hot Feaver, or other inflammation (which is known by some signes, of the which shall be treated hereafter) there Phlebotomy may safely be used, but it must be done upon mature advise; for it is not good in all cases; in some accidents it is good, and in some it is dangerous: therefore care must be had, to be sure when it is necessary, and when needless. Many use Phlebotomy in all wounds without distinction, little regarding the situation and condition of the wound, whether in legs, armes, joynts, supposing to prevent hereby the prunellain wounds,
(known

(known unto few) but they effect nothing at all thereby; for this rash and indiscreet Phlebotomy used keeps off none of these fore-named symptoms: if the Wound be in a dangerous place, then you must deal with it in another manner of way, if so be you will be honest and get credit in the cure. This also must be made account of, that the lesse the wounded hath bled, in the lesse perill his life standeth. But this is considered little by many, which are bluntly for blood.

Many do advise, if a bleeding Wound cannot be stetched easily, then the Patient is to be phlebotomized in the opposite side, and to let him bleed well, for thereby the blood, as they perswade themselves, will take another course, and be drawn away from the Wound, (be the Wound never so big or wide, and never so many veines wounded) and the blood turned to the little and narrow mouthed veines opened. But let them tell me, what reason they have for this, and whether this was ever done, that a bleeding Wound was ever stetched in this manner? Some reasons were produced in their answer, but without any truth, because experience sheweth the clean contrary.

This is true, when the blood is thus inflamed, and in this his anger, it taketh an unconstant course, then through Phlebotomy this angry and impetuous course is in some sort allayed. But without this anger, I know not to what end Phlebotomy should be used, unless it were to bring the Patient the sooner to the Church-yard. For if a party were wounded in the four outer joynts, and at each did bleed vehemently, on what side must he be phlebotomized to divert the blood from the Wound?

In this case much more could be alledged, and I rest to make any further relation of it: of this I intended onely to give a hint, that when in the next part of this Book I treat of the stetching of blood through easie, mean and honest wayes and meanes, thereby to overthrow these Imposters, so the courteous Reader may the better understand, upon what occasion I undertook the writing hereof.

CHAP. VI.

What grosse abuses are crept in, in binding up fresh Wounds, with searching, groaping, grabling.

BEing already noted more than once, how through the carelesnes of Surgeons often evil and perillous symptoms are caused, whereby afterwards are caused lameness, fistulaes, cankers and such like; therefore is it needful to shew what manner of abuses these are, intimated by the word carelesnes. Having cleared the two head points, as stitching and stenching of blood, and shewed how grosse abuses are therein committed, I will touch also other abuses which are as usually committed as the other.

The next unto stitching and blood stenching, is that which is committed with the small iron instruments, which by reason of seeking, are called the seekers or searchers, wherewith some do so seek and groap, as if they had lost somewhat there, and desire to know exactly of what largeness the Wound is, and of what depth the stab is, what vein be stabb'd, which bone be broken, and which be whole: this they do onely at the first time of binding it, which might be pardoned and excused, but as often as they dress it, so often do they search the Wound. And if there be three or more Surgeons together, then is it not enough, that one with his searching iron shew his judgement and cruelty, but also after the first the second, after the second the third must seek for his lost penny in the Wound, and thrust up and down in it, the one more rudely than the other, beyond all the rules of justice: But how think you that the poor Patient is thereby mortified and tormented?

A dangerous custom to search in the wounds.

But to what end is it, to groap and to grable so much in Wounds? Ah! how little do they consider, that with that poaking and searching they break and destroy that natural Gluten or Balsom (which setteth for the healing, and is the healing it self) and spoil it altogether. Pray tell me, what else do they to a Wound, which in the said manner they

they search and sound, but to make another? I see no other thing used, but that they constantly play all upon one string, and still keep the old Ditty, and they alwayes use but one sort of salves and ointment, one sort of oyle, and one sort of plaister, the Wound fareth a great deal the worse by reason of that cunning fecker. Seeing there is but one thing used to Wounds, let there be found in it whatsoever it will, why should the Patients be much tormented, which are troubled enough already with their wounds? But it must be so, that their gross ignorance and palpable rudeness may be brought to light, because they know nothing else to use, be the Wound in what shape and form it will.

There are some Surgeons found, who meerly for customs sake make use of that little iron, because they have seen it used: though they know little, what they seek for, or why they seek, but onely to make men beleive, that it is a thing of great consequence, and that men should hold them to be great Masters, whereas all is but useles, nay often very hurtful.

Being there is no defect in the Wound, why do they then Search and molest the Patient with seeking, pressing, griping, groping, doth great hurt. and moiling in the Wound, and tormenting him thus immeasurably? for thereby not onely extream pains are caused by touching his quick flesh and veines with the iron, but the time also is prolonged to make him indure the more misery, and then the Wound also is kept open the longer, and cannot so soon close as Nature could desire it: nay they undo that also, which hath been healed partly, as you shall hear more afterward. In case the Wound should not be in a right posture, surely that instrument will never set it righter, nor find its defect.

There are better wayes belonging hereunto, as signes ^{How to} whereby the Wound is judged; viz. by the viewing of it, ^{judge of a} by the smell, by the matter, by the pain, by the form, colour, ^{wound.} plaisters, their working and such like; by these signes we must know the Wounds condition, and into what symptoms it is like to fall,

Touching the form and colour of Wounds, take good notice

notice of these signs, for they ought to be lookt to; if the brims or outsides of a Wound look red, it is no good sign, and shews that there is a fault in the Wound: but if the borders of it look blewish and light, it is a sign, that the Wound healeth; but if the skin about the Wound is dark blew, that is no good sign, then the blood maketh the healed skin come off again, and now you must make vent with sifers, and cut that blewish part, to let the blood run out, else the new healing fals quite away, and by giving vent, then the new healing holdeth in part; if the Wound round about in the outside feeleth hard, is swell'd, and looketh red, then is it a sign, that the Patient is pained, and Impoſthumations are like to ensue, which is dangerous; if there be a swelling with a whitish skin, and feeleth to be full of water, and the Patient feeling a droughth at night, then good care must be had, for fear the cold fire should grow on him, and if there be a stink in it, then the cold fire is already in it, and smels like a thing putrified, but is not so full of paines as the hot fire would cause; and in case he complains not, or feeleth no paines, then his death draweth on, especially if that cold stayeth long, then he soon dieth, or else fals into great danger, by reason of the wounded joynt.

Touching the smell and its sign, if a Wound smelleth strongly, then the veines and sinews are dying, and purge; for as soon as a Wound is drest, then alwayes the flesh separateth, and so do the veines also.

Concerning the corruption in Wounds, take notice of these ensuing signes: if there be white matter in a Wound like sour milk, then a conflux of ill humours comes to it, and look from what side these humours come, for the Wound is now settled to a bad end: if a Wound be full of white matter, then it is not in a fall healing way, but is at a stay and delaying posture: if there is red matter in a Wound, then some loose piece is in it, or some other hinderance: if there is in a Wound ruddy and thick moisture, inclining more to a flesh and carnation colour than red, then that Wound is in a healing posture.

Touching the pain, take notice of that sign; if the Wound

wound be moist and waterish, then there are pains at hand, and the joynt-sponge is like to grow.

These are the true signs, whereby you may have a fundamental information of a wounds condition, without these it is impossible to learn things aright about Wounds: and in this manner all may be known without putting the Patient to any further pain, much better, then with seeking, groping, and the like, which is not onely useless, but very hurtful and painful.

As often as a vein or sinew is toucht, as often is a new pain caused; for they are very touchy and full of sense, which sense by that touch runs all the body over; and as often as you stir in a naked wound, as often ought it to be again cleansed; for there is nothing to be kept in a naked wound, be it as little as it will, or as gently, there separateth something, and thrusts by the healing. For it causeth a flame, that is, the humidity of the naturall balsum, which alwayes like a chrystal lyeth on the wound, should not be taken off from the white small veines, for they cannot endure to be wiped off. Note.

Now, as you heard above, if they keep a stirring too often in the wound with the Seeker, is not the natural working in the wound interrupted, and the wound in its healing obstructed and prolonged, nay rather made worse? For the blood-veines, to speak onely of these, in the wound, are desirous to thrust off their healing, and to separate that which is worsted and toucht. How often falls it out, that when a blood-vein is stopped and desireth to heal, then with that Instrument called Seeker, the healing is thrust off, and the wound is put to bleeding afresh? Is it not so, that thereby that which was once healed is wounded again, and so *mus de novo* be healed?

Lastly, this doubtless is true also, if you stir often in the wound with the Seeker, and alwayes the blood-veines are thereby put to a sweating, then commonly it turnes to a sponge, and that principally in a joynt.

Note this of the Joynt-sponge: first, what it properly

ly is, then how it is discerned, and lastly, how the same may be cured.

Touching these three: a Joint-sponge is nothing else but a moisture of the sinew-water; which groweth on and turneth hard, and setteth there. Some think, that in that place the healing is done, whereas it is a sponge of joynt-water, and paineth the party: though it paineth him not, being touch'd, yet the party feels pain in that joynt, and is red and angry, burneth, and commonly lameth the party; it causeth lameness if it be not expelled betimes by medicaments. I have seen one of an eggs bigness standing out before the joint, with Sifers I cut it off in the upper part, looks like boyled bacon, toucheth like rusty old bacon, onely that it is softer and is tough; I applyed to the part I cut, *Unguentum Egyptiacum* prepared with Verdigreice, this takes it quite off, and the joynts pain is diminished; though *Egyptiacum* biteth much, yet the other pain in the joynt molesteth the party more intolerably. And the sponge being gone, then must be used the brown ointment, either spouted in, or else conveyed in liquid; repent not the bestowing of your ointment, for therewith you may shake the wound wholly, for it opposeth the sinew-water vehemently, the pain ceaseth, and the healing comes near. But in case you cannot well come to the sponge to apply soft weeks, therefore there is a sharp week, which surely will penetrate to it, and it is made in this manner; take of the green ointment made with Verdigreice, besmeare the week with it, then take another week, wrap it about the first, dawb it with the ointment, then spread it full thick with the green salve or ointment; this being put into the wound, feeling a heat, it melteth off the week, and is fed further from the inner week. This is that corrosive I ever used to my Patients; for it melteth and floweth better and sooner than any corrosive or water; and it cometh to the holes where no water can reach unto, and it biteth not so long neither as other corrosives do, because it is not onely of a drying, but of a moistening quality, and separateth very easie, and resisteth forcibly the sinew-water, called
the

the joynt-water. A better remedy was never known for this purpose, and found to do the feat, by several mens tryall upon my direction. And in case a joynt-sponge should grow, (which usually happeneth in wounds neglected; for in fresh wounds better care ought to be had to hinder the growth of a joynt-sponge, or else it is not well with the wound) then you must deal according to the process now rehearsed; and then the wound may be healed, according to this direction spoken of.

At the first healing let all run together, what may be healed, and the more the wound lesseneth, the better it may be healed; if so be it do not grow hollow and incline to a fistula.

This could be more largely handled, but I pass it over, and commit the courteous Reader to farther consideration herein; these few things I mentioned to that end, that men may see what a deal of mischief a little Iron instrument may cause.

CHAP. VII.

Of the abuses which are committed with wicks, tents, lints, multipuffs, &c. chiefly in deep stabblings, illustrated with an example.

Wicks and such like things are not altogether condemned, as if they were of no use at all; no, but are well used in fit places and seasons. This I cannot approve of, which many do use, they stuffe wounds with lints, wicks, as much as they can hold, or are able to put into, without any distinction or discretion. Medicines ought to be put into wounds, and not filled up with rags; and in case any wick or tent is used, it ought not to be forced in, but let it have a free passage; but to press them in with instruments, as they commonly do, is not advisable, being both useless, dangerous and hurtful.

Wicks are of good use, but abused;

For who doth not see, that wounds (which begin to close and come together) are torn again, and kept asunder, and are not able to come together; and that is commonly done in stitch'd wounds, and thereby the stitches are so pull'd and spann'd, that they tear out, to the greatest pain of the Patient, which might very well have been omitted. I do not approve at all of stitching, especially in deep stabs, because of the several mischiefs and difficulties caused thereby, as a fistulo, which is such an infirmity. which inwardly is wide and broad, but outwardly it is narrow.

To speak of wicks further, is not thereby the wounds mouth stoppt and closed? what ensueth upon? the matter cannot get thorough the shut-door, which should come out, and naturally desireth to come outward, and is by force kept in, unless the door be unbolted, and vent be made for it; in the mean while this matter doth little good in the wound, but rather great mischeif. Besides that the paines are mightily increased by that matter in the Patient, and this also doth further ensue, that the the sinews grow thereby slimy and unclean, which causeth extream inconvenience and misery. And how should there any good come of it, when the wound is healed against Nature's stream. Nature of her own accord doth drive well, but she must be assisted. Therefore when she is desirous to out-cast the matter, why should she not be furthered in that work, and not hindered with rags? This not being observed, it happeneth, that when a wound is in a healing way, its made more dangerous, whereby more work is made than there was at first.

The bigness of a wick should not fill out a wound, and if hard wrung in, it swelleth, and stops the wound, and no passage left for the matter to get out, and is an obstruction unto the healing: therefore is it better and more convenient, that wicks be made of a thin neck, and a broad flap, thick in the middle, and not pointed, but round in the end, and soft, that it may the more easily receive the ointment, so that the ointment on the end of it may come to the bottom of the wound, and not on the top of the wound, for if the

upper

upper end of the wick be annointed , then the wounds top healeth, and maketh the mouth of it narrow, and healeth not from beneath upward, but if the ointment be put to the other end of the wick, then the flesh healeth from below, & before it driveth the ointment out of the wound , it turneth to a matter , and so healeth better upward : and if the wick be made big, then the matter stayeth below in the wound, causing rather corruption than any healing. But if a wound hath two mouthes , I very seldome stopt both, onely one, and left vent to the other, which furthereth the healing of the other.

It is helpful to let the wick be kept dry for a while in the wound, that the ointment on it may the longer keep in the vertue of it. For that reason I never wrung any wick into a wound, but let it have room enough, and let the wick fill up the wound below; pure cloth ought to be taken to wicks, the purer the better, for the loose threeds of it if they stay behind in the wound, will cause mischeif. Make your wicks thus (for so I found them to do best, when I desired to keep open a Wound, without any pain) take pure small flax, cut it even, then take two or three haire of the flax, as long as you intend to have your wick, wind it about on the smaller end; the wick must be thicker in the middle then on the top or above, and the top must be thicker then the end, the middle of it must be thickest, thus the wounds mouth is the better kept open: annoint the wick well with the green ointment, or wound salve, it healeth the wound from beneath upwards, and the wick will not suffer the mouth of the Wound to grow narrow: you ought not to put any swelling wick into a Wound; and fit the wicks sharp end so, that it open a little in the Wound; and fit it so, that the Patient be not put to pain; then the upper end of the wick you open as farre as you please, and wind it about with two or three haire, to keep in the in-turn'd wick: in this manner you need but two wicks to a Wound, and whilst the one sticketh in the wound, you may dry the other, and use it again; and if these be not dry enough, then make a fresh one. Fresh ones are better (but require
more

more toil) for cleanness sake; such wick you may use in Wounds, sores, or where you please; I made use of them for the top and for the bottom, to keep the mouthes of the wounds the wider, that the ointment may be poured into, and run down the better. Other wicks, or tents, be they made of what they will, they suffer not the matter or corruption to pass. And when you think your wicks did reach to the bottom (for they heal the deep way not into narrowness or laterally) then cut them shorter in the pointed end, and leave that end round and soft, they prick not, and the ointment sticketh the better on the soft round wick, than on that which is hard twisted, and if you make them sharp pointed, then the healed flesh is pinched by them.

I know that Wounds may be kept open with these wicks a whole year and upward, and that the flesh rather would presse forth by the side, then wear out the wick, or fill out that hollownes.

Sometimes I made long wicks (for fistulae in the thighs) for the better framing of them, I took twigs or sprigs out of a besom, cut and scraped them, wound flax about them and made them stiffe, else they are not stiffe enough the long way, as they should be; and wound a twig and a wyar together and covered them with flax, even as yarn may be rould up in wax to make a stiffe candle of it, and that windeth and turneth according to the hollownes of the wound. I speak here not of Wounds, but of hollow Sores, that are deep, a span or more; they are thereby refreshed and cleansed.

These kind of wicks I held in esteem, and these flax wicks are to be used onely for such Wounds which are kept open, whilst other things about them are healed.

Further, I dislike that custome, when some fill up all sorts of Wounds, be they where they will, with wicks, which is a very dangerous way and great abuse. For if you must needs deal with the Wound in that way as hath been said above, then first consider the form and condition of the places where the Wounds are, whether they are able to bear

bear wicks, yea, or no. For wounds are not alwayes in one condition, as some rude Asses suppose, who use but one sort of salve and plaister, be the Wound what it will, no other, as if one pair of shooes could fit every bodies feet.

The place of the Wound ought to be considered, where many white small veines concurre and meet, as in hands, feet and joynts. For where there are many white veines, there are no wicks to be used, for that reason, alledged partly here, and partly in the precedent chapter, and for that also which followeth.

I have often seen, that when some had thrust their wick into the Patients Wound, he felt such pains, that his eyes did run over.

But what followed upon?

Nothing else, but that through their rude touching the sinews by thrusting in the wick, forced the joynt-water to run; and not giving over with their wicks, they bereaved the poor man of his life, who might have been healed, if they had dealt honestly and discreetly.

More might be said of this, but I will close it with one particular Example, though I could quote a great many.

There was a Surgeon pretty well skill'd and experienc'd, in whose service I lived one year, being some kinn to me, he was brought to a Patient, who was run thorough the shoulder at night time, the Surgeon dress'd his Wound (he shall go nameless now) that Wound did bleed much, because a vein that run that way was hurt: the next day he opened the Wound, and thrust two great wicks into it, the one before, and the other behind: with this wick he touch'd the blood-vein that was hurt, which had been stench'd already, and made it bleed afresh, which he regarded not at first, little thinking that he had caused it with the wick: and coming another time to dress his Patient, and going to pull out the wick, the blood burst out again. Then he took notice, that the wick had caused it; but it was too late, for there was no remedy left; the poor man died,

Lastly,

Lastly, it ought to be well noted, that if a Wound bleedeth, and you suppose it doth not come from any splinter or shattered piece, which might be the cause of that bleeding, but from an opened vein, which was not quite healed, let that neither fright nor trouble you much, but do thus; make use of the Wound salve with the brown ointment mingled, that the Wound salve run the better into the Wound, and annoint therewith a lint, for tents of linnen cloth cause bleeding not so much as those that are made of flax, for linnen is of a sanative quality, in some veines, but they close not so well, as the wicks do made of flax. Make this linnen wick very soft, and that it fill out the Wound, from whence the blood comes, and let it be thick at the upper end, that the blood may be kept in. Even as usually Cotton wool is applied to the vein phlebotomized, lay here also Cotton wool to it. Briefly, close and keep the blood in the Wound as well as possible you may, and keep the ointment also in the Wound, and thirty houres after dress his Wound again, and if the plaister and the wick comes off together, then make a softer wick for the place, and proceed as formerly, and if it doth keep on, let it settle or lie there, and ten houres after dress him again, and do not take out the tent unless it be very loose, then dress him again; for it healeth by degrees at every dressing, and the flesh groweth as well so, as if dressed every hour.

This I speak of to the end, that better care may be had about the wicks or tents, for these are not to be used to all Wounds indifferently, especially not to such, where blood veines and sinews are cut, and dangers are feared, as you have heard hitherto.

CHAP. VIII.

Of the abuses committed in plaisters, papps, poultices, and such like, in the dressing of Wounds, and what hurt is caused thereby.

IF Wounds in the dressing be abused, as hitherto we wrote of, and the natural balsum disturbed, what can be expected, but Nature unwilling to and refractoriness, because she is hindered in her own free working, despoiling to help herself? if it be so, then surely one symptom or other will be incident, and if it hapneth best, swelling will ensue, to say nothing of other accidents.

Besides these things, you heare many other faults are committed, when some think that all may be performed and effected with Cataplasmes, and thereby to bring all to right; they make such Cataplasmes of Rose cakes, others of Marsh mallow, Searie meal, Millers dust, Fennel-seed, Milk, yolks of Eggs, and such like; of these they make a poultice, pouring some oyles amongst it, and apply it to the Wound as hot as the Patient is able to endure it. There is no need of such a Poultice, if you intend to deal uprightly, because these are rather hurtful than otherwise; and if such a Poultice be applied, then it is against Nature, and ought not to be applied hot; it will not keep long thus, but growe cold before it worketh, as all moist things usually do.

Cataplasmes I do not condemn, if used in due measure, season and place; my self make sometimes use of them. But that they should be good to fresh Wounds, as some think, I cannot believe it: For experience is an other way to convince in this. Lay such a Poultice on a wound place, let it lie there two or three houres, you will find a stinging raised in that place, if it doth so in a sound place, what do you think it will do in a wound place, which is moved and stirred enough already, and become raging in its course.

Abuses In
Cataplasmes

Cataplasmes
are good, if
not abused.

A Cata-
plafme
choaks the
wound.

The feveral hurts done to Patients thereby I pafsover, and relate onely this; fuch Poultesses do choak and ftop the Wound in her courfe: for when fuch a Poultess is taken off the wound, you fee how it fmoaketh, and what fignifieth that fmoak? Nothing elfe but putrefaction. For Nature promoteth putrefaction, even as a Mother that breedeth a Child, and brings it to light. Now if thefe Cataplafmes caufe more hurt in wounds than good, as that fmoak is an evident fign thereof, why are they not omitted, but applied to places where they fhould not? for in fuch places there is moifture enough without thefe?

I have known fome Surgeons, who held it for a good fign when they faw wounds fmoak; but the good that comes of it, they may keep to themfelves, for I will have no fhare in it. Vapours in Wounds an ill fign.

And to fay it once more, if a wound doth fmoak, it is an infallible fign of putrefaction; for if fuch a wound after dressing be not opened in two or three dayes, then a fink is at hand, which putrefaction thrufteth forth as her firft fruit, and a wound, which begins to putrifie, whether it be fo foon healed, as when it was frefh, let them tell it me? And to fay nothing of the chiefest thing, which is the healing thereof; is it not hindered and kept back? For before you can come to the healing of it, you muft firft remove the putrefaction, and fpend fome time in it: Befides the troubles and paines which this putrefaction caufeth, it is moft certain, that any wound, whole vent is taken away by the faid Poultess is forced to fmoak, as you heard above.

And what is this fmoaking elfe but a moifture? which moifture gathering together turnes into a water, as we fee it in fuch wounds which are thus papp'd up; for at their opening there is found a water round about, like drops of fweat, which come meerly from that fmoaking.

Now I ask, whether the water fignifieth any good? and I ask further, whether any Medicine doth effectually work on fuch wounds, thus forced to fweat and to water, if dressed as they ought? In my judgement wounds that are thus compelled to dew, will hardly come to healing.

And

And at the closing of this Chapter let me tell you thus much; any wound in a joint, be it in the hand, foot, or elsewhere, being choaked up in the said manner, it keepeth a foul and angry bird in the nest; and the Patient will be pained in that place as often as the weather doth change, because of that moisture shut up in the wound; and Nature will hardly rectifie that unsound moisture in a long time. A foul bird
in the nest.

That up-shut moisture will stir at the changing of weathers, and at the encrease and decrease of the Moon; for the Celestial Lights do doubtless work upon the things below, according to Gods singular Ordinance. Enough of these, let us proceed.

CHAP. IX.

Of all such Surgeons which dwell in abuses and errors, which know neither their weakness nor own Medicines, nor are able to judge of their operation, together of two Examples which shew the chiefest abuses.

THe highest and principal'st thing in a Surgeon and Physitian is this, that he be a knowing and experienced man, not onely in wounds, hurts, sores; but also in the Medicines he intends to use to them; if not, then little good will be done: if a Doctor or Surgeon knoweth not the disease or sore which are brought to them to be cured, in-somuch that they know not what to call it, or of what condition it is, how shall they then apply a fit Medicine for them? Though sometimes a blind man can give a name to the child (as the saying is) what helpeth it the Patient, if both these be unexpert in the operation and vertue of their Medicines, which they intend to minister: therefore the knowing of the Medicine and of the Disease must go hand in hand, if so be that any good shall be performed. For Taylors and Shoemakers usually take measure to fit their Customers.

It is dangerous when men know neither the Medicine nor the hurt

But many profess themselves Surgeons, and are ignorant Asses, which appeareth thus, because they use one sort of oyle and plaister to all manner of Wounds and Sores, supposing to do well therewith; and in case that will not doe it, then the Cerussa must do it: And what is the meaning of all this? nothing else, but that they know neither the disease, nor their own medicaments, neither do they know what belongs to the disease, nor what the operation and vertue of their Medicine is.

Wounds
are like to
the stomach

They should rather consider, that the stomach in mans body, and the wounds in the outward members are like one another in some sort. For as the stomach hath a decoction to digest the meats he feedeth on: so any wound receiveth the Medicine applyed unto for its healing. And as there are some kind of meats, which are not pleasing to the stomach, & it casts them up upon occasion; so it is not good to apply any medicine to a wound, one more, another less, according to occasion, season, place and circumstance. And as a Physitian ought to know when the stomach doth not digest well his food, being grown either stonie, or taken cold, or when the liver is out of order, the which he must judge by signes, because he cannot look into the stomach, and so order his Medicaments accordingly; so it behooveth a Surgeon also, who can plainly see into the wound (in that he hath an advantage before the Physitian) to know, whether the wound is able to receive and digest the applied Medicine, and must know what food the likeeth, for her healing; for several wounds have their several signes.

Therefore a Surgeon, when he hath dressed any wound, and taketh the plaister off again, must know and judge by the wound, matter, smell and shape, what defect there is in the wound: whether it hath received the medicine like a food, and hath digested it well, or whether it hath cast it up again. Therby he may know, whether his applied medicine be right and good, or whether it be defective, either too sharp or too sweet, too weak or too strong: and if he finds the infirmity in the Wound, and the defect in the Medicine, then he must regulate himself accordingly.

Now

Now those that understand themselves thus, as soon as they have dressed the wound, and have taken off the plaister, or any other thing, then they may easily know what condition the wound is of, what will please it, and what is against it: and then they may well say, that they are Masters in their Skill and profession, and herein consists the fundamentals of a Surgeon. But those that understand those things not at all, they will be in errors and abuses in all their undertakings; such may well hold their tongues, and hide themselves, and learn their lessons better, and go longer to school. But where are such Schools?

In *Germany, France and Italy*, those that undertake Surgery are examined, and none is suffered to pass for a Surgeon, nor practise that Art, (Art I say, some make a Trade of it) and if they subsist and hold in their examination, and can answer to the questions they are asked, which they call, their Master-piece, that is, when he saith as well as his Examiners.

Novices in
Surgery ex-
amined.

These Master-pieces are found in Manuscripts and in print in several places of *Germany*: Some learn these Questions by heart, as Nunnes do their Psalmes, and do well therewith, and are accepted of in their Master-piece, though they never had any insight into Surgery, nor ever learned the fundamentals thereof.

How abu-
sed.

However I do not condemn these *Examina*, for I count them very necessary and good. For Taylors and other Tradesmen suffer none to set up his Trade, unless he have made first his Master-piece: if it be the fashion amongst Weavers, where the matter is onely about a piece of cloth, why should it not rather be in that noble Art of Surgery, which concerneth neither breeches nor doublet, as the saying is, but it concerneth mans life and welfare.

Now I would fain ask some Examiners, why they examine those that are not of their Opinion or Science? Surely if they should examine them more closely, and ask reasons of their sayings, I know many would keep in their tongues, and learn their lessons first, before they come to the *Examen*: O how many would be found faulty, onely in wounds,

to say nothing of other symptoms, sores, &c. wherein some make no distinction at all in the healing of them, though it be of a high concernment. Some can make a long discourse of it, how, what and where, but to no purpose, though they prate never so much. For if their reasons be considered, touching wounds and hurts, and their original and cause, and their Medicines they use thereto, it would be found manifestly, that they do not agree at all, which in honesty should be.

But what other reason is there here, but that they know neither the hurts, nor their causes, much lesse their conditions, nor their own Medicines, and their operations, they understand them not, and what good can they effect in their cures? Hence commonly it falls out, that they are at a stand, know not what to do, and then they judge such hurts and wounds to be incurable, of the which more largely shall be treated hereafter.

These things, hitherto spoken of, touching abuses, might be more largely handled, and more abuses alledged. But supposing the judicious Reader will by these guess easily at the rest, therefore I let it rest, and quote two Examples onely, which in general shew the abuses, and so close this first Treatise.

An Example, shewing
all kind of
abuses.

At *Padua* in *Italy*, some fourteen years ago, a Noble German in a Duel with a Polander received on his left hand a Wound near his little finger, cross over the joynt; thereunto were called the chiefest Physicians and Surgeons, which came riding on their Asses, and took the wounded into their cure, and drest him the first time, but how and what they had done then is unknown to me, because I was absent; the next day I went thither also to see their dressing, at which I saw excellent rarities and mysteries, which I should not speak of, yet for the publick goods sake I cannot hold my tongue. And when they updrest him, they took off from the Wound the Poultices they applied, and with the little Seeker they search'd round about in the Wound, which fell tedious to me by reason of the Patient, and the Wound being thus long sounded, then the Physicians stept aside

aside to consult together, where an Anatomist made an eloquent discourse, which of the veines, and which of the sinews in that Wound were cut and hurt: after consultation they shewed and did an extraordinary Master-piece; for they took two flat wicks or tents of linnen, and dipt it in their joynt-wound-oyle, and thrust them into the wound, whereof the wound gaped very much, then they laid a plaister over it, and upon that a cloth full of medicinal Poul-
tesses, which I cannot name all. In this manner they dreft him; and there was no end of their seeking in the Wound, of their stuffing and cleansing at their several restings.

Now hear what happened, and what their Medicines did work: few dayes after the Wound began to water and to run, which we call the joynt-water. Then they fell a purging of him, used all manner of things they could think up-on to cure the wound, but all to no purpose, for they could not stop the joynt-water: then more things they tried, and what? they tied and bound his arme very hard and close by the elbow, hoping thereby to stop the course of the joynt-water, and other symptoms and rheumes coming from the head. But as they misunderstood the thing, so it went contrary to their expectation. For as much as they mist in the stopping of the course of the joynt-water, so much more there was caused an inflammation and swelling, whereby the wound grew most horribly slimie and dangerous, at last it swelled up to the arm; then grew on a putrefaction in the veines and sinews, and holes fell in the arm of a fingers length, thus the arm rotted. For to such symptomstruly belonged better Skill, then they brought forth and used. They supposing a heat had caused all this mischief, which indeed was not heat, but a meer suffocation, the which they knew not, which they went to quench with Vinegar and Well water put together, washing the wound therewith, dipping clothes in it and applied them. But all this was not yet enough, for these remedies availing nothing, and the Patients weakness growing on more and more, then they fell on other things, met, and consulted, and disputed the cause very much, at last they resolved to expell all these symptoms

symptoms out at the Patients Arse, because it could be no otherwise. Here Glisters and purges must walk, Sirrups, Electuaries, Decoctions of Honey and Sugar, all must help the poor Gentleman to some ease, for he was forced to swallow up a whole Apothecaries shop; when all came to all, the poor Patient died in great misery. This was their good practise they used on that brave Gentleman: I have not told the fourth part of the abuses they committed upon him, for it is too rude, and too grosse, and pitty to have it told. An old Woman might have cured this Wound with a small and mean hearb, without any danger and pain; but it is done.

Another
Example.

An Italian Lord, at an Inn in Rome, was cut with a short Hanger above the elbow: the chiefest Doctors and best Surgeons were called, and the Wound was put to their cure, and they undertook him. These Doctors and Surgeons used great rarities and Arts: after a short dispute and consultation, the chiefest of them was to dresse the Patient, as being not onely a good Anatomist, but an expert and rare man, who took a linnen cloth, dipt it in warm Wine, tied it about his two fingers, therewith he felt in the Wound, as deep as he could, and began to wash the Wound, and to cleanse, and to scour, even as if he were to scour a rusty Armour; the Patient was so pained thereby, that he prayed him for God and *Maries* sake to let him alone, but he had not done yet; then he took out his Seeker, searched and sounded the Wound to and fro, and viewed it very narrowly, how wide, how deep, how long it was; then he fell on prating, the long and the broad way of the danger in the wound, and how this and that muscle was hurt, and what danger it would have proved, if this or that had been wounded and hurt: what great danger he escaped, because this and that was not hurt; and how good a luck it was, that this and that was not hurt and toucht, and such like things more, too tedious to relate them all.

After his preaching, without which the patient well could be, he took a cloath bedawbed it with a Salve and Oyle, thrust it often through the wound, and at last he left it there, and

and thus he drest him curiously: whilst he thus handled him, the Patient hardly held up, that he died not under his hand, yet he died that very day.

I could quote more of such like examples, but I let it rest so: this I shewed onely to that end, that every one may see into what miseries Patients may fall, if they happen to fall into such Surgeons hands, who think that all is well, what they do, however they handle the patient; because in that particular they have a grant upon Letters pattent, to profess such Arts, and have read once a thing, which other men as well as themselves have done also.

I forbear to nominate any man in these examples, because many of those Surgeons are still alive, and the Reader would be never the nearer, though the parties had been named. He that is touch'd herein, will soon take notice of, and easily know and acknowledge, that Surgery and Physick doth not lie in the authority of any mans persons, whether a Gentleman in the City, or a Bore in the Country be a Surgeon. For the whole business lieth chiefly herein, whether he knoweth or understandeth the thing, and whether he knoweth to meet and to fit Nature, yea or no: for in Physick without this no good can be done

All what hitherto I have written is not done in spight or disgrace, onely that those who are so obstinate in their old errors, should be led away from their old dance and old fiddle, and from their naughtiness, and to take better things in hand, whereby Patients may reap more benefit. And it is an apparent truth, no naughty thing, be it never so ancient, and never so much used, can be made good; for I have seen many, who said, it was not fit that old customes should be left off, and to produce new things into their places; yea, those were worthy to be severely punished: that do so, because they despise and condemn thereby the Antients and the Universities. Therefore in some places the Books of *Theophrastes Paracelsus* (to whom the best and most famous Surgeons must give place) are prohibited to be read; but in my simple judgement it is done very foolishly. For it were to be wish'd, that old Customes were well understood

No nought
is good be
it never so
antient.

and followed, and not to bring in their own fancies, then things would fall out better then they do. Things may be brought to light, if Nature onely were well studied, as Experience testifieth, which is nothing else but Nature her self.

*Nature in her self doth remain,
Which Experience makes known again.
No new thing on earth e're comes on,
Things past do return again.*

What is that to me, what opinion *Galen, Avicen, Guido*, &c. hatch'd in their breasts, were not the things they brought forth in their age, new things, and who knoweth, whether the same thing did not befall them then, which befalls those who produce new things now (as they call it.) *Momus*, who is never pleased, hath doubtless lived in those times as well as now adays, and besides this, many things are done out of hatred and envie. Therefore it is best to consent and to follow those, which agree best with Experience, and commend and shew their skill effectually and really: if any one findeth and learneth better things, though they more agree with antient things, who shall forbid him to make use of them? Thus much of the first part, touching the abuses in Surgery committed.

The end of the first Part.



O F
C U R E S,

Of all sorts of VVcunds in Mans
body, from the head to the toe, and of
other infirmities, belonging to Surgery, how the
same ought to be observed, according to the
fundamentals of Art, to be handled
and cured.

The Second Part.



IN the first part of my Surgery books I
treated of the abuses, which are in full
practise among the greater part and num-
ber of those that profess themselves to be
Surgeons, and shewed what mischief is
caused thereby, to the greatest prejudice
and ruine of poor wounded men. Yet
have I not related all the abuses which are practised and
committed now adays, because that relation would be
never at an end, & would prove tedious to the Reader to pe-
ruse them, and so I gave onely a hint of the grossest, hoping
that those that know these, may easily guess at the rest. In
this second part are rehearsed many abuses, which every

judicious man will easily discern, and if he finds any defect in that particular in the first Part, he may easily supply that want without great labour.

Now I come for the present nearer to the business, and declare what belongeth unto Surgery. Therefore my intent is to write in this second Part of all sorts of Wounds from the head to the toe, and of all kinds of infirmities which belong also unto Surgery, namely, how the same ought to be cured without any abuse. Where I will bring in several subtle Manuals, which Surgeons advantageously may use, and will conceal nothing, as much as is known unto me. Let the Courteous Reader be perswaded, that I will have great care to bring and shew nothing which I know to be not true, but that which I have made tryal of, and seen experimentally, what good it hath done, and what hurt it did. For it is not my purpose to borrow any thing out of other Surgeons writing, and to trim my self with strange feathers, and to publish the same for mine own, as it is the custom of many now adayes, which do nothing else, but to make up voluminous collections, and is all one to them, from whom they have it, even like Smiths, who know how to hammer their old nailes, and so to get a great name and fame thereby: whereas it had been much better, that their prating, and loquacity, and their names had ever been concealed and unknown, and that good paper (which would have served for better uses) had not been spoiled. For to what end are such great volumes, in which there is no utility but hurt? it had been better they were quite let alone, then they would have done no hurt: It is better a book be short and good. To what end should it be, to write a great volume, and to shew in it even those things, which others before me a thousand years, more or less, have written. Is it not so, those that are minded to read them, would rather read them in their own books, according to the verse:

Primum ex ipso fonte bibuntur aqua.

I do not speak it to that end, as if all were new what I write,

write, and that my book containeth nothing, which in other books of Surgery might not be had, is it not a common saying, the one pulst the bread out of the others mouth? and what marvel is it, if two write of one thing, when sense and meaning maketh them seem to write the same? It is lawful to publish one anothers meaning. For that end and reason do I speak this, that others may see, that I am careful to publish and impart that, which I have learned from others, and got it upon mine own experience, and that faithfully to benefit my neighbour withall. And that will I perform without any prolixity, and as briefly as may be possible, so that this my Book may prove a small *Enchiridium* and pocket book, easily to be carried about one, as well in time of war as in time of peace; for a present Instruction to Novices in Surgery. For touching plaister-making, salve rouses and cakes, turning of wicks and tents, and such like, these they ought to have learned afore, and be industrious in those things, if minded to be good Surgeons.

CHAP. I.

What a Surgeon ought to know.

IT is well known to those that have any understanding, that Art doth imitate Nature: for all what Nature sheweth, the same Art undertaketh to imitate. Therefore men ought to observe Nature in their actions; and regulate themselves after her, if so be they intend to have good success in their undertakings. For Nature may as little be conquered, as a strong River may be stopt in his course; even so nothing will prove prosperous, if undertaken against Nature.

Art imitates Nature

Seeing things spoken are really found so, therefore it is resolved upon, that a Surgeon is Natures servant, and that he ought to endeavour to imitate Nature, because she will not be in subjection to any. Therefore in Surgery nothing ought to be done against or contrary unto her. For if a

Surgeon should undertake to do and to force Nature, then he would not onely labour in vain, but also would make the last be worse than the first.

Nature
must be
known.

Though it be not my desire, that a Surgeon should have a perfect knowledge in all natural causes, because there are many things which concern not his Profession, though it would do him no hurt if he knew them: however Necessity requireth to have a good knowledge of such things that concern him; as of Wounds, and of Medicaments which he useth to them, and of all such things that depend upon; in all these he ought to know of what nature and condition each of them is, that he may prepare his Medicine accordingly, because all Wounds are not cured one way.

Therefore when he vieweth a Wound, and considereth the place and situation of it, thereupon he must presently consider the condition and quality of that place, whether that Wound be mortal, or whether by Gods help it be curable.

A Surgeon
ought to be
an Anatomist.

Therefore is it exquisite, that a Surgeon be well seen in Anatomy, of which among us there is great defect, so that scarce one amongst many understandeth the internal constitution of man, nay, hardly have ever seen any man anatomized. My desire is not, that a Surgeon shall and must have a perfect knowledge in Anatomy, so that he should know where every sinew, vein and other parts of the body lie, even to the least, for that we leave unto those which make profession of Anatomy, whom we desire not to take it from; onely Necessity requireth thus much, that he have a superficial knowledge of it, especially of mans bones, that he may know how the same are joyned and stand together, as well in the head as in other members, especially the junctures, For it happeneth many times; that joynts are dislocated, which must be set again, which he will hardly do, that knoweth not how they stood formerly. He must know also the chiefest sinews and blood-veines, and must know their situation, from whence they come, and whither they go, and how they run together and meet, and such like. For this he may well know, which places are dangerous, to deal the

the more discreetly, and to order and prepare his Medicine the better, all according to occasion of things. He must know also the internal joynts and members, and the chiefest occasions touching places; as also the principallest muscles, what they do cover, and what they move, and such like things, and all this to that end, that when he onely looks upon a Wound, he instantly may know what part be wounded, so he needs not to stir and search much in the Wound with the Seeker, of which in the first part hath been spoken more largely. He ought to know how to judge, whether a Wound be mortal or no, whether it may be cured wholly without any lameness; of all which he can neither know nor judge certainly, unless he have good skill in Anatomy (if not in the whole, yet at least in some part thereof:) And this is the reason, that so many bone-fractures keep crooked, and so many joynt-wounds prove a lameness, if so be it falls out so luckily, because Surgeons have no knowledge in these things, or very little.

And whereas Time is the first and chiefest thing, therefore wise and understanding men observe it carefully in all their affairs, and regulate themselves accordingly: for it is most certain, that some things are more fitly and conveniently done at sometimes than at other, it is needless to prove it with examples: therefore it is most Necessary, that Surgeons be observers of Time, (and all what thereby is contained and understood) wherein he may do a cure; as whether it be summer or winter, cold or warm, dry or moist, in the decrease or encrease of the Moon, &c. For Experience, that great Teacher, tells us to be nought, at all times to undertake for health: whereas it may well happen, that that Medicine, wherewith in summers time a Wound is cured, the same may spoil a Wound in the winter; so of other reasons may be argued. Therefore a Surgeon ought to learn, how to fit himself for the time, and prepare his Medicaments accordingly, to use them more or less, either to strengthen or to weaken withall; all according to occasion.

Surgeons ought to distinguish Wounds, whether they run downwards or upwards, and to order things accordingly

Time must
be observed.

To observe
a distincti-
on in
Wounds.

ly with the out or in running, and to make their salves and plaisters accordingly, either thinner or thicker, so as necessity requireth in the application: and they must know and judge also by certain signs, whether a Wound be poysoned or no, whether it be spoiled or no: for among these one Wound is not like the other, and each must have a particular cure.

Signs are
to be ob-
served.

A Surgeon especially ought to observe the signes, which partly shew themselves in and by the Wounds, and by no means to slight them, let them be never so mean; for every sign, be it never so slight in the appearance, signifieth something, and maketh him that observeth it to consider of something already come into the Wound, or at least at hand. And signs in the Wounds have their special signification, be it good or bad, especially they foretell of symptoms, which partly are coming on, of the which in the third part of this book shall be treated: therefore it is necessary, that every Surgeon take notice of the signs, by reason of the symptoms, which a body in health is also subject unto; hence it is apparent, that the signs, be they never so slight, ought not to be slighted, as from thence great mischief ariseth, if not prevented in time, and are opposed seasonably. He that hath good judgement herein, is worthy of honour, and to be commended for a good Surgeon.

The Pati-
ents nature
ought to be
observed.

The nature, complexion and condition of the Patient ought to be known, and observed; for some are strong, some are weak, some of a cold, others of a hot complexion, some of a moist, some of a dry nature, some are subject to special Diseases, and have them already, as Feavers, yellow Jaundice, when they were wounded.

After such circumstances and occasions a Surgeon ought to regulate himself, and to debate from the one, and to add to the other. For a strong Medicine is too powerfull for a weak body, and overcomes his nature; and a strong body cannot be hurt by a weak Medicine: and it happeneth often, as hath been said, that the bodily Diseases strike into the Wounds, and make the same worse. Therefore a care is to be had, for every sort of wound requireth a particular cure

cure, and he that undertaketh to cure all these with one sort of Medicine, he doth no less, as if he strove to put two feet into one sock.

For it is not onely required; that a Surgeon know the nature of the Wound and of the Patient, but he ought to have also good knowledge of his Medicines, whether they be compounded or simple, that he may know how they are fitted for the Wound; whether they burn, or obstruct, or work any other way; that he deal discreetly, and prepare the Medicines accordingly: for when he seeth that the Wound cannot brook with the Medicine, but are contrary one to another, then that Medicine you must cashier, and take a better for it; and rectifie that which the first hath spoiled; but if he finds that the Medicine hath done well, and was either too strong or too weak, then must he know how to add or how to debate, according as the thing requireth, which he ought to know; in which case Alchymie fitteth a Surgeon exceeding well, but that is almost all the world over fallen into contempt, by reason of the great abuse that is committed therewith; which however I count it very necessary, that a Surgeon should have skill in it; for that Science will teach him to know the inside and outside of things, by which means he will be able to prepare his own Medicines, to separate the poyson from the good, and the pure from the impure, according as he is expert in that Art. If a Surgeon first knoweth the hurt and Wound; and then knoweth the efficacy of his Medicaments, then he may easily know also, what is good or nought for the Wound, and how according to the condition of it he must diminish or increase his Medicines; all which lieth in learning, which is never at an end as long as man liveth.

Medicine
& Wounds
must be
known e-
qually.

CHAP. II.

How a Surgeon ought to behave himself, as well for his own particular, as about the Patient.

THere are other things besides these hitherto mentioned, which a Surgeon ought to observe carefully, as well concerning himself as his Patient, and are of great consequence. My purpose is to treat of them in this Chapter, and to take notice, though not of all, yet of the most, or of some.

A Surgeon
must be no
drunkard.

A Surgeon ought to take heed of drunkenness, that he be not given unto it, and that for many weighty reasons.

For how should a drunken Surgeon judge of a hurt or wound, when he in his head is alwayes disturbed, and is bereaved of his true sense? How can he view well a Wound, to view the signs, and to judge discreetly of them, when his sight doth fail him, and all what he looketh upon seemeth double unto him? or how can he touch or feel a hurt well, when his hands do shake, are rough and rude for feeling.

A Surgeon ought to take heed also, not to permit every one to look into the Wound, as many use to do. And being it is the custom in many places, that the Magistrate sends sworn Surgeons to view Wounds, therefore I neither can nor will disprove that custome, but I say, it is very necessary it should be so, and should be strictly maintained, that in case a Surgeon should have nothing for his pains from the party, he might have a recourse to them; but I can by no means approve, that rude and unexpert persons are suffered to come to such Patients, as they do upon an Order made by them; whereas it is more fit, that the best experienced Surgeons ought to be chosen thereunto: those afore-named rough and rude Surgeons make shew as if they had great judgement in the Art, themselves alone are able to sound, groap and search in the Wound, and so with their Instrument they search therein, as if they had lost some money.

ney in it, and are like a blind man, which feeleth with his stick for his way.

Now when these rude Surgeons get a Wound into their hands to cure, then he that hath dressed the Wound already must shew and let them see the Wound, by reason of the judgement they are to give of it. But it is a thing not to be suffered, to sound and to grope in the Wound, for reasons alledged in the first part; the Patients advantage ought to be considered, and the rest regulated accordingly.

Lastly, a Surgeon ought to observe his Patient, that he eat and drink not all he hath a mind to, of the which more shall be spoken hereafter. For Patients are like Children, still desiring such things which are offensive and hurtfull. For if the Surgeon give liberty to Patients in this, then he would be accessory to the evill that should ensue upon. Therefore he ought faithfully to warn him to take heed to himself; for in case he should not do well, then all the fault would be laid upon the Surgeon: if he be fore-warned, he doth well to keep unto it, if not, let him take what falleth.

CHAP. III.

How a Patient ought to be kept in his diet, and other such like things.

Hitherto it hath been said, what knowledge a Surgeon ought to be of, and how he must behave himself in many things, both towards himself, and then towards his Patient. Now order requireth further, that I come nearer to the business, and speak more properly of the Wounds, and of their Cures: however things hitherto spoken of concerns the business very much.

I will now touch things further, and first before I come to the cure and healing of Wounds, methinks it is good

and necessary, to shew in what manner a wounded party ought to be kept in the diet, because this particular is many times of as great concernment as the Medicine it self: yea, when things are brought to a good pass by Medicaments, the same are spoiled and turned about by immoderate feeding. Is it not often seen, that sound and strong bodies spoil themselves with sound food? (I say nothing of unsound ones:) if they transgress in the measure and time, what marvel is it then, if the like happeneth to unsound and wounded parties?

With some vulnerary potions Wounds in part may be healed; and may thereby be made worse also, and quite spoiled. Hence any understanding man may easily judge, that a true moderateness in eating and drinking, is none of the least things that are necessary unto healing.

A distinction to be had of circumstances

A distinction is to be observed in the person, if it be man or woman, that the Surgeon may prescribe either with a diet; for it is not good indifferently to feed upon meats, for that which is good for man proveth very naught to a woman; and again, what is good for a woman is naught for a man. The reason is well known, and in many examples made good, and so I avoid herein any prolixity of discourse. And this distinction is also to be observed in persons, whether the party be tender and slender, or whether of a robust constitution, as the precedent Chapter made mention of. And according to the distinction of persons a distinction to be observed in their diet; and the Climate of the Country is to be observed also. For some Countries are better, colder, drier and moister than others, and as these qualities are contrary one to another, even so are the Inhabitants of these Countries in their complexions contrary one to another; and that which is good for a Saxonian in a Symptom, the same proveth hurtful to an Italian in that weakness. I will say nothing here of the age, whether the wounded party be young or old, because every one ought to know, that this distinction also is not to be slighted, as Experience teacheth us. Neither will I mention the place where the Wound is, be it inward or outward, above or below, before

or

or behind : Neither will I make any words of the time, in which a party is wounded, whether it be done in Summer or Winter. For I do not believe that any Surgeon is so rude and ignorant, that should not be sensible of, that a distinction is to be had of a Summer and of a Winter Season, touching heat and cold : And I mentioned it onely for that end, that every one may see, that it is fit Surgeons should observe such distinctions about persons, and still be regulated after the form and condition of things, as well in the diet as elsewhere.

Touching the said diet ; some have that custom, as soon as they have got a Patient into their hands presently forbid him Wine, Beer and all good Meats, and make Decoctions for him, which are very unfavoury, and would make a sound body sick ; however some meats are forbidden, as Cabbage, Coleworts, Pork and Bacon, all manner of water Fowls and Fishes, because these are of hard digestion, and give no good nourishment to the body ; and such food is allowed which nourisheth well.

Abuses in
diet forbid-
den and
command-
ed.

A certain Physitian forbidding all meats to his Patient, was asked, what his Patient should eat then ? He said, young boyled Cocks : he was laughed at ! What diet is good for a wounded party ? Use him like a Woman that lies in ; according to the custome of the severall Countries ; and I declare it further, not onely in general, but in particular also, as much as concerns eating and drinking.

Concerning the meats, let the wounded suffer no hunger, and what he hath a mind too let him have it, in case it be not hurtful to him, observing the sex, age and climate of the Land, as you heard above. Neither ought the patient to be forced to eat this and that, which goeth and is against his stomach, that Nature may not be oppressed, whereby danger would be caused. And this must be observed when the Patient hath a stomach to eat. For sometimes Patients have lost their stomach ; in such a case what is to be done ? Then endeavour to give him some Cordials to corroborate his stomach. But in case the Patient will take none ? Then apply stomach-plaisters, and use the oil of Nutmegs & Mace.

I will set down how to make good broth for the wounded, to strengthen his stomach withal.

Good Portage for the wounded.

Take a Hen, or in want of that a piece of lean Flesh, cut it in pieces, put it in a pot, put Calmus, Cinnamon and Salt to it as much as will season it; lute the pot, and let it boyl for three hours in a sufficient quantity of water; at the opening of it you will have good broth, pleasant to the Patients stomach; or boil and roast such things, as you shall think fitting for him.

His drink.

Touching his drink; wounded men being alwayes more dry than hungry, having lost much blood, their Liver striveth to have that want supplied: besides, bloud is like a food to the Wound, and drink generates bloud, and the more bloud the drink breeds, the sooner the Wound healeth. Hence you may note, that the wounded must have drink sufficient, and let him not suffer thirst, or keep him not too dry, as some usually do, for thereby mischiefs are caused, as daily experience witnesseth. But the distinction mentioned at the beginning of this Chapter ought to be well observed, and let the drink be neither too hot nor too cold, and not too much Salt to be used; ye may permit him small Wine to drink, which is very good for such parties, especially when the party hath lost much bloud; but no Wine is to be permitted, if the Wound be mortal, and in the head, or any great Wound of the body, be it inward or outward. The same rule is to be kept in such Countries, which affordeth but Beer. Let the drink be what it will, the Patient ought to be kept in a cool temper rather than in a hot, in which case Barly water is of good use.

No great draught good for them.

I advise no wounded party to drink great draughts at a time, for such hasty drinking oppresseth the Liver, which is hot and dry, and would prove no better, then when oyl is poured into fire to quench it withall, and thereby the Liver would be obstructed and hindered in her sending forth nourishment to the rest of the members, as being oppressed and hindered in her operation, which would cause great inconveniences, and a slime would settle about the Liver and choak her, and being thus obstructed, how can the veins

veins receive any blood, and you may easily guess what the issue would be.

Touching other things, the Surgeon ought to observe, Hasty motion hurtful that the Patient do not stir and move too hastily, whereby great pains would be occasioned unto him, as the Gout, Falling Sickness, Feaver, Cramp, Inflammation and such like are caused by such violent motions, chiefly, let wounded parties not practise Venereous lusts, whereby the worst accidents are caused.

A Surgeon observing all these things carefully, then there is hope, by Gods help, of good success in his Art, for the good of his Patient, and the Patient also ought to behave himself accordingly. For all dorth not lie in the teaching, but in the learning also. For if a Patient be unruly, not caring for the Surgeons instruction, but fall on gourmandizing and drunkning, then no good is to be looked for; because the Patient refusing all natural helps, like a Swine trampling on Pearls, cannot expect any cure, and the Surgeon looeth his credit and reputation, and all his pains he bestowed will be in vain.

CHAP. IV.

Of three accidents commonly befalling wounded men, a weak stomach, a stoppage in the urine, and not going to stool, how these are to be remedied.

WOunded men are subject unto many Diseases, as Experience shieweth, among the rest there are three things which commonly befall wounded men.

First, a patient that hath lost much blood hath a weak stomach, which keeps not his meat nor digesteth it, but vomiteth it up, whereby he falls into great danger, and the Wound shuts not, nor is it fed naturally, and the healing is put back.

Besides this, his urine also is stopt, and can hardly make any

any water, whereby inflammations and other mischiefs are occasioned.

Lastly, the wounded are bound in their body, cannot go to stool, and this usually befalls wounded men, whereby grippings in the belly are caused: these three accidents must be helped in the following manner.

To help the vomiting.

Touching the stomach, to help him to right, that he may keep his meat, make use of this following Receipt: Take Mint, Wormwood, *ana* M 1. Ginger, Calmus and Nutmegs cut small, *ana* 3 ℥. boyl these in Wine and Water for an hour together, then take a great sponge, or in want of it a four doubled cloth, dip it in the foresaid boyled liquor, press it out again, and apply it hot to the stomach, his vomiting will be stayed; this must be iterated twelve times a day, and will cause an appetite. Vomiting is not very dangerous, and is stayed sometimes of its own accord, and is not much to be regarded, unless it hold the Patient vehemently, then is it time to help him.

To help the stopping in the urine.

Touching the stopping of the urine, the following Receipt I made use of with good success. Take Annise seed 3 2. put it in a pewter bottle, pour Water to it ℥ 1. keep it stoppt, and boyl it in a Kettle full of Water, in this Annise seed water dip a sponge, apply it to the Patients privy members as hot as he is able to endure it, this provoketh urine. And if this be too weak, and doth not prevail, then the Receipt must be made stronger thus: R Annise seed, and Parsley seed, *ana* 3 1. Maiden-hair M 1. Berberies 3 1. boyl these in Vinegar and Water, to one pint of Vinegar put three quarts of Water, boyl away a third part of it, and use it as you heard above. And if these outward means will not help, and the Patient is pained in his Urine, then inward meanes must be used: *Viz* Maiden-hair, Alkekengi, & *Oculi cancrorum*, take a sufficient quantity of these, as of Maiden-hair 3 ℥. of Alkekengi or Winter-cherries 3 1. lay it in the Patients drink, and let him eat the *Ogh's Cancrosum*, doubtless it will provoke his Urine, in case outward means be used also.

Touching

Touching his going to stool, this is not much to be set by, To help
 especially when the wounded ought to lie on bed : but if he him to stool
 hath no stool in three or four dayes, then is it time to look
 to his back dore. Some think to remedy this with purging,
 but in my judgement it is not good, it is alwayes accompa-
 nied with danger, especially in head-wounds : it is better to
 make Suppositories of Honey and Mice turds mingled with
 Salt, and if that will not help, then make a Glister of Mal-
 lows, oyl of Cammomil and flesh-broth, and put Salt to it,
 and minister it: and if that be too weak, then *R. Electua-
 rium Diaphenicum* ʒ ʒ. oyl of Cammomil ʒ 3. Mallows
 ʒ ʒ. beaten, pour on these a quart of Water, (Flesh-broth
 were better) or Goats Milk, stir it well about, apply it nei-
 ther too hot nor too cold, you will soon see the effect of it,
 you may put Salt to it if need. But in case the wounded
 should be purged, then the safest way is to make a Potion of
 Sene leaves, and Rubarb, and minister it.

Thus much of these three accidents, usually befalling
 wounded men : sometimes other Diseases are incident
 also, which are to be remedied as there is occasion for: Of
 other Symptoms which happen unto Wounds, shall be treated
 in the next part of this Book, where I intend to write of
 them.

CHAP. V.

How a Surgeon ^{in this th} ~~may~~ ^{thing con} himself about his Swathing-bands,
 and other Manuals.

ALL manner of Arts being invented through experi-
 mental knowledge and exact observations, and even
 till now, *dies diem docet*, one day teacheth another, I hold it a
 thing impossible, considering the brevity of mans life, that
 an Art can be so exactly learned, but the after-comers find
 somewhat more in their practical part; and so it is impossi-
 ble to set all down, what belongeth to Surgery. As much as is
 known

known to me I will communicate in the following Chapter.

Note, the dressing of a Wound is of great concernment, to handle it well, and to use and take notice of advantages, which some little regard, and dress their Wounds without any difference or distinction, whereby they effect this, that they lame those, which could be set upright if they had been honestly look'd too. Sometimes it happeneth, that neither the Wound nor the Medicine applied is in fault, but the fault was committed at the dressing. A Wound may be furthered in the healing, if well dress'd and bound: and a Wound may be spoiled in the dressing, and a lameness caused: as when a wounded member is bound too hard, then is a swelling caused, the Wound is choaked, having left no vent to help it self and to receive any life: yea, I say this, that if a Wound were onely kept clean, and duly dressed, it would sooner heal, than if all the Art of Medicine had been used, and all the Poulteffes applied to it.

Take notice of the binding.

Seeing that binding is of great consequence, therefore take good notice of all the parts of the body, and chiefly of those that are dangerous; in some Wounds there is great danger, in some there is less, and that according to their places.

And observe exactly the Wounds on the Shinns, Knees, Cartilages, Armes, Hands, and where there is any joynt, for those are dangerous, require great care, by reason of unhappy Symptoms, which easily fall in.

Touching other Wounds in the pint of Neck, Sides, Neck, Throat and Head, those also must be well looked to, but require not such exactness in the dressing, and are for the most part dress'd so, that the Medicine applied may not fall off.

There are some Wounds also, with a flap hanging down, which require a careful dressing.

Surgeons must be ready at all times.

Those that have undertaken Surgery, must have a care to be ready, and have in readines Salves, Plaisters and other necessary Medicines, well prepared, that at what time soever any Patient be brought to them, he may find good counsel and

and present help, and not to tarry for their readines, or stay till they make and prepare something, which tarrying would prove hurtful and prejudicial to the wounded, by reason of his bleeding, and other disturbances; for the readier you are to dress him, the better the healing prospereth, and the more credit it will be for you. And when any comes to be dressed, you ought to endeavour to be ready with your Medicines, Plaisters, Salves, Lints, Roulers, that the Wound be not kept long undressed, and be speedily covered and closed.

And that must be observed for that reason, that the air be kept out as much as possible it may, for air doth hurt to the Wound, especially air is contrary to veins, sinews and joynts, usually causing cramps and Stitches; and the room, in which the patient is dressed, ought to be kept shut and closed, to keep out the air and wind.

A Surgeon ought to be careful, that he breath not into the Wound, especially when he is yet fasting, and is to turn away his mouth from the Wound, or ought to put a cloth before his mouth, if need, for such breathing may cause that a water may stick to the Wound, and incline it to a rottenness. But this is chiefly noted in Head-wounds, when the Pan or the *Dura mater* is wounded, for then it is dangerous.

Some Surgeons have that custom at the dressing of Wounds, that they wash the blood out they find in the Wound, thinking it to be done very well, freeing it from uncleanness, and this they do at the first dressing. But it is an abuse, and a thing contrary; no blood should be washed out of the Wound, but let it be there, if settled; for a congealed blood in the Wound is no hurt unto it, and is rather beneficial, by keeping out the air, which otherwise would hurt the sinews, and it hinders the bleeding of the veins, which they would do, if the congealed blood be wiped out; it takes away the flesh, for it is a right flesh-glue, exceeding a Sarcocolla, and it healeth other Wounds if used, much more than where it lieth, and it furthereth the matter in the Wound, and hasteneth the healing, and though it were not

Air hurtful
to Wounds.

Not to
breath into
Wounds.

The blood
in the
Wound is
to be let
alone.

so, yet it breaketh forth gently without any pain, and that of its own accord from beneath upward : therefore in that particular molest and trouble the Wound no further, as to wipe out the blood.

An honest Surgeon ought to have care of wounded joynts, be the Wounds great or small, and observe a distinction in their dressings, and bind them not too hard : a small joynt must not be bound so hard as a great one, it cannot brook with it,

A Surgeon for the general ought to endeavour to order his bindings so, that the Wound be kept together, and the joynts in the hands ought to be dressed and bound commodiously, whereby lamenesses are prevented.

Note the
manner of
binding.

Touching the binding it self, how it must be performed, note thus : No joynt, neither from above, nor from below, must be bound in the beginning, but let it alone, otherwise the blood is driven inward or down, which would cause a putrefaction, and an inflammation ; but that binding must begin in a convenient place, either higher or lower then the joynt, and that very gently : thus dangers will be avoided, and swellings prevented, which in Wounds commonly appear.

What swad-
ling-bands
they must
use.

The Swathing-bands must be made choice of also, for all do not fit, nor are good for it. For a Wound that is to be dressed, requireth that the swathing-bands be soft, and keep asunder, that they may lie on the closer : such swathing-bands are best made of old and worn linnen, because they are very soft, yeeld the sooner, being retched and pulled, lie close on, keep the Medicine the better to the Wound, and cause no trouble nor molestation. But such Swathing-bands, which purposely are woven with two selfedges, or such that are hemmed on both sides and ends, these are altogether unfit for Wounds, because such hems cut deep prints into the flesh.

Thus much of the Swathing-bands : more could be said in that behalf, but to bring in all what could be said, would be too great a labour. He that desireth more, let him advise with Experience, which is able to put a Knighthood upon him.

CHHP. VI.

Of Head-wounds, what behaviour the Surgeon is to be of, both toward himself, and toward the Cure.

NOW it is time to come to the Wound it self, and to describe the cure thereof as it ought to be; hitherto I swarved round about; Here great care ought to be had about the condition and distinction of it: For as the Wounds lie distinctly, so they must be cured distinctly; and as the one part of the body is stronger than the other, so the Medicines must be prepared accordingly. For a Head-wound cannot brook with such strong Medicines as a Wound may in the leg; and a Wound in a joynt cannot endure such great clotter as that which is in the flesh: these things ought to be observed, and more shall be spoken of in the following Chapters.

As the
Wound li-
eth, so it
must be cu-
red.

And I will begin with the Wounds in the head: I know what order I ought to keep in their description: namely, first of the slighter Wounds, afterward of the broken Skull; and then of others also, and to speak of their several cures. But this order I do not observe, for that reason, because they are cured almost one way. Therefore I will write onely of dangerous Wounds of the head, where not onely the skin is broken, but the Skull also, and such like. For he that can cure such a dangerous Wound, truly he will be able to cure a slighter Wound.

This used order serves to shew how dangerous Wounds are. For to say they appear clear and clean, but afterward they cast up loose and shattered pieces of flesh or bone, and one thing or other appeareth, and so I regulate my self accordingly in the doctrinals, touching the Head-wounds, and shew the meanest and safest way to heal them, as Nature alloweth, and Experience bears witness.

All Wounds in the head are dangerous, commonly they bring death along, by reason of the many and heavy symptoms they are subject unto: as there is the Cramp, arthri-

tick, or Palsie, Apoplexie, and many more, and especially are they dangerous, when the pan or skull is broken, and more dangerous are they, when the skin of the brain is hurt and wounded, and most dangerous it is, when the brain is toucht, as it falls out sometimes.

Therefore a Surgeon ought to be the more careful, and the wounded also must not be wanting to himself. For where wood and field, as they say, hold together, commonly a good year comes after, Therefore the Patient must be ruled by the Surgeon, and though the meanes used are somewhat rough, yet he ought to consider, that *Malus nodus malum requirit cancum.*

The Surgeon is to observe, that he govern the Patient with a good diet, as the condition of the Wound requireth, as you heard in the precedent Chapter.

Touching his speaking, the Patient ought to be as sparing in it as possibly may be, and if he speaks, let him speak softly, and the room he lieth in must be kept quiet and still. And the Surgeon must place the Patient orderly in his lying especially when the Wound is dangerous, then the Patient must be ruled, and lie still in his bed, lie high, even as if he were sitting, the higher the better, and that for reasons well known, and the chamber must be kept dark for quietness sake.

If a wounded parry be brought unto you, dress him quickly thus: Cut off the hair round about the Wound, in case the Wound bleedeth much, that the blood may the sooner be stenchd, and danger of death be prevented: the hair being cut off, stench the blood with Cotten-wool, or with lints, as you shall hear hereafter, and then dress and bind him as it is the fashion.

But in case the Wound doth not bleed (as it falls out sometimes) or onely weepeth, then there is no need of blood-stenching, but lay a Head-plaister to it, after the manner of an Opodeldoch, so that the Wound be covered broad and well every way, and then lay a soft bolster upon, and bind it that it do not fall off. All this must be done quick and nimble, that not much of the air come, whereby inconvenience

venience soon is caused, if the dressing of the Wound be delayed.

And the Surgeon ought to dress the party in a close chamber, especially at the second dressing, to keep out the air, because air endangers the Wound, as you heard already; the chamber also must be warm, according to the years season, for cold is hurtful to the patient, causing Cramps, the which to prevent, let his neck and back bone be annointed with warm oyl, as with Cammomil oyl, and such like, at the several dressings.

Touching the bands; bind it not too hard, and keep measure herein, as you ought in all other things. But if it be a very dangerous Wound, it needs be dressed but once a day the two first dayes; after that you may dress it twice a day. But I approve but of one dressing a day, unless the matter come too much, then two dressings a day will serve.

Have a care you use not much the Seeker to search in the Wound withall, to find out its depth, breadth and length; the Wound doth not brook with it, but desireth a good and a short work, for the reason allèdged in its due place.

You ought not to stitch any Head-wound, because it is dangerous, whereby an inflammation and anger soon is caused, which will be of an ill consequence.

Seeking and
stitching in
Head-
wounds is
forbidden.

Having dressed the Wound, and observed every thing well, then is it adviseable, that in case the Wound did not bleed, the Patient be phlebotomized the next day. But if his Wound hath sufficiently bled, then Phlebotomy may be forborn and delayed for a fitter time.

The blood being stetched, and the Wound dressed, and stayed there its due time, then at the taking off the blood-stencher go as neatly and gently about it as possibly you may, that you move not the Wound to bleeding again, which a rough dealing would cause, when the blood-stencher is taken out by force, which puts the healing by, and causeth worse things. Therefore be careful, tender and gentle in the opening of the Wound.

And in case the skull and the brain is opened, then at the taking

Brain o-
pened.

taking off the bloud-stencher be careful that nothing fall upon the brain, for that cannot brook the least thing to lie upon it. Therefore if any thing be fallen in, be it but the smallest hair, it presently falls on cleansing it self, and striveth to cast it out. * But what pains, beatings, pantings it causeth to the Patients head, may easily be judged, for I am not able to express his misery. You must not use greasie things to such a Wound, also oyles, ointments, because they do no good, for the reason quoted above. Therefore my advise is, not to use any Pouders, Waters, Oyles, Salves, which some do make and apply them to the Scull and the *Dura mater*: for I marvelled much, that in this particular Nature was not better regarded, whereas neither the scull nor the brain can endure any thing. For the most were of opinion, that things good for the head may be useful also for Head-wounds, if applied; like the Bore, who thought the Plaister, that should be applied to the stomach without, would do better within, and so he swallowed it, and by his good beliefe he was healed. Others would mend the matter, and mixed other things with *Aqua visa*, and poured it into the Wound, and dipt lint in it, and laid it to the Scull or *Pia mater*; all which in Head wounds, where the braines *Dura mater* is opened, are meer poyson, whereby apparent dangers are caused. Therefore let none be deceived, that whether *Pia mater* be hurt or no to use such like things; and have a care that nothing fall upon it.

Ointments
Salves and
Plaisters
used.

And if you intend to make use of an Ointment besides the plaister, hoping it will do better, and dispatch the cure the sooner, then do thus.

First, make ready fine, clean, white lint, and lay it into the Wound gently, not roughly, as they usually do, nor to thrust it in, nor deeper than the scull is, & that the ends of such lints do hang over the Wound, that they may with more ease be taken out again; upon these lints others may be laid of the same stuffe, which with the Ointment must be made wet, which is set down hereafter, but not too much, that nothing drop from it upon the *Pia mater*, then apply the Head-plaister upon, and dress the Patient warm, covering him with a soft

soft bolst er, and observe all things well which hither to have been spoken of, then doubtless with Gods help all will be well.

And being it happeneth commonly in Head-wounds, that the Scull is wounded, and some bones are shattered, some whereof are quite loose, and some do hang by a little, and some of them stick downwards on the *Pia mater*, and some of them are beaten quite into the brain. Here a Surgeon hath need to regulate himself accordingly: no such small bone or splinter ought to be taken out, unless it be free and loose; and are to be taken out very gently and cautiously: be not afraid, though they hang by a little and are not quite loose, then go on in your Art as well as you learned it. Nature her self will in time loosen those splinters, and expel them in good time; and Nature must be assisted here with vulnerary Potions, as you shall here of them hereafter.

In case a splinter hangeth within the *Cranium* downwards, which may be known by a certain sign, then you must look to it, by reason of the difficulty which is at hand. For when the brain raiseth, as commonly it doth, then the brain toucheth such down-hanging splinters, with raging and pricking, and maketh a short time seem to be very long to the Patient: with this raging, beating and panting, *Pia mater* is often broke thorough, and the brain it self hurt, upon which, nothing so sure, as death doth ensue, or at least a mortal Chronical Imposthume. Therefore if by a sign you can observe, that from within such a shattered splinter hangeth downward, then take it out with an Instrument, as well as ye can, though some force be used.

In case you cannot come to the splinter, then you must make room to it, and expel evil with evil, thereupon cut the hair close round about the Wound, yet so, that none fall into the Wound, then cut that skin and Scull cross way, where that splinter lieth; loosen the skin off the scull, and then see, whether you can get it out without any further trouble. And if you cannot come near it that way, then you must

How to
deal with
these
splinters in
Head-
wounds.

Splinters
hanging in-
wards.

In case the
splinter
cannot be
come by.

use a very sharp incision knife, and take out that piece with the on-hanging splinter. But if you could see that little bone, then cut it off even with a sharp knife. This is the shortest, safest and best way to deal upon such like dangerous Wounds: from hence we observe, that the skull being broken may easily be dealt withall with carving and cutting, because in such cases there are alwayes certain rents at hand, so that the cutting goeth off easily from the hand: otherwise where these rents are not, then is it hard to deal with.

And when you observe, that from the skull some little bones are fallen upon the brains, and that the vulnerary position and the plaister cannot drive it out, which is not done in haste neither; then they may be taken out with the Core-tongues, and have a care that the *Pia mater* be not laid hold on, and pull'd asunder, which would cause a Palsie or Apoplexie.

CHAP. VII.

Of other Symptoms, which are incident in Head-wounds, and how they are dealt withall.

Biles in
Head-
wounds.

IT falleth out in Head-wounds, that Biles appear round about, which in time must be opposed, before it come to any symptom. For the bloud and the matter is settled under them, and soon cause pains to the Patient, if not remedied in time.

This to prevent, as often as the Patient is dressed, to streak them gently, and press that matter out at the Wound: with your Swathing-bands and Bólsters you must be so careful, that the matter be forced to come forth at the Wound.

The skin
loosened
from the
bone.

It usually falls out also in Head-wounds, that the skin looseth off from the bone, and such Biles grow there as you heard of now, where the bloud and matter gathereth, and puts

puts the Patient to miserable pains, and that is easily discerned; for then the Patients eye-lids do swell, especially when their rising appeareth, which feeleth soft here and there in the head.

This must in time be remedied, else the blood would settle into the eyes, which hardly or never will be gotten from thence; yea, the Patient would be in a deadly perill if it should be delayed. Therefore remove these gathered matters in time, and drive them out at the Wound. And in case this matter would not yeeld unto this, then lance these Biles, and let the matter out, and heal them again without delay, that you cause no other trouble.

It happeneth sometimes, that the scull by a heavy blow is bowed inward, and there happeneth a great Bile in that place, and that sometimes is done without hurting or breaking the skin, and is congealed blood beneath it; some have an open Wound, and some have the scull onely bowed without the skin broken, and sometimes not without splinters: In such dangerous cases a Surgeon may well look about him. For if the brains be crusht, then all remedies are used in vain, nothing will help, though the scull could and should be put to the right place, unless God miraculously strengthen or put new strengths into the Patient. Therefore I will be silent in such cases, and shew how others are to be dealt withal.

How to help
a bowed
scull.

In this particular, most of the Surgeons say, that when such a hollow and bowed scull comes to be cured, the same must be raised with a Screw, but of this Screw I cannot approve, because it causeth splinters and more troubles, and I never found any good was done with it, which in this particular gave occasion to me to study upon a better way, unto which (next God) I took Nature for my help.

If such a case is brought to you to be cured, then carefully feel with your finger, whether there be any fraction or congealed blood at hand, and ask the Patient whether he be prickt, or how he feeleth himself: if you find congealed blood, then presently lance the place, let the matter run out. For this must be a common rule unto you, as soon as

you suspect any thing under such an inbow'd hole, be it bloud, a fracture, a little bone, a splinter, then with one cut you must lance it, to press out the matter, and to make vent. For such holes are sooner brought to right when they have vent and are cleansed, then when they are shut up : and for that reason you must lance it, that you be the surer of the thing, else you will be forced to cut off such hurts, by reason of the splinters or little bones, which come to the innermost part of the scull, and so cause Imposthumations, which at last must be cut up, together with a piece of the scull, as hath been said.

In such cases, as generally hath been said in the precedent Chapter, where the scull is bowed, Phlebotomy must not be neglected, and that in both armes, as occasion shall serve: use no greasie things, as Oyles, Waters, Ointments, Coolers, &c. but the Wound must be kept dry; neither must the in-bowed scull be oppress'd with Cataplasmes, or such like Compounds, as some use to do. Onely stick to your Head-plaisters, and apply them the thicker, that no air may get in: use no tents into such open hurts, neither thrust any thing into, with the Seeker, or any other Instrument. For besides other incommodities which are caused thereby, as was shew'd in the first part, the Scull is brought by that meanes to that pass, that it will receive nothing, and must of necessity be shaved; which may well be omitted, if rightly proceeded in other things. However, not regarding the mis-handling: it happeneth in some falls and blowes, that the skin goeth off from the bone, and will embrace no more one another. Here of necessity you are forced with a sharp knife to shave or to scrape the bones, that you may get unto a fresh bottom. But in case by feeling no more can be found or felt, but onely the hole or fall, then omit lancing, and use onely the Head-plaister, together with the vulnerary potion, it will do well enough, and by the help of Nature, which is ready to help her self, it will come to a good end.

Touching the Trepan, make no use of it, and let it not trouble you, though the scull be bowed; for the head is able to bear with that hollownes without any hurt or prejudice, because

because a great hollownes and emptines is below it, and not filled. Onely good care must be had, that no ill symptoms may fall into. Therefore phlebotomize the party, and in the rest follow the government of the curing the Wound. But in case the scull be in bowed very much, then open it with a sharp knife, and at the hollowest parr, where it is deepest, raise it again with a convenient Instrument, and bring it into its due place, as well as possible it may be done.

In case the pan of the head or scull be forcibly bowed inwards, which the sword at the blow could not rise, and made a pit or hole, as you heard above, and the blood setteth there, in this case the skin, which rose thus, must be instantly lanced, and let the blood run out, then it will sit down again and sink, then you may easily feel, whether there be any fracture in the scull, or any splinter. It happeneth also at the lancing of such deep pits or holes, that the skin doth not sink, but remains as it is cast up. In this case cut it with Sifers cross way, then the heads skin will sink again, and in a short time after will heal to it.

In case at such a blow or fall, where the scull is in-bowed, there be a Wound, then dress it, as hitherto you have heard, how Head-wounds are dressed.

And if there any bone be loose, then take it out, but in case it hangeth yet, and sticketh inward, then raise it outward again with an Instrument into his former place. Let it stand so, use convenient means, and let Nature provide for the rest, I know she will not be wanting unto her self.

CHAP. VIII.

Of the Head-ach after the Cure, and how that is to be helped.

How to make the subtle Head ointment, with remarkable examples of Head-wounds cured.

Head-ach
after the
cure of a
Head-
wound.

It happeneth sometimes, after that a Wound hath been fully cured, that the Patient after two, three or more dayes,
or

or after so many weeks feeleth pains in his head, and the same pains do increase more and more, and many die of it; for all Surgeons do not understand the cause thereof, and how the same were to be helped, of the which I will inform you here.

When a
Wound
doth swell
after heal-
ing.

First, when a Head-wound is healed, and riseth after the healing, and swelleth, and is very painful, then lance the Wound presently, for it signifieth that some splinter would faine be out, and if you do not open it, then the matter would make a mighty great hole, and break out in another place, which would cause many symptoms and troubles, and the blow would come on a fresh; therefore look you give vent to that matter, and when such things are opened, then the plaister will draw out the splinter, together with the matter bloud and water, and if you think it good, you may let him use an expulsive vulnerary potion, then the Wound will be cleansed and cured.

Secondly, look well to these following signes; if the Patient complaineth of great pains, feels great prickings in the head, and these smarting pains increase more and more, and cannot endure to be toucht in that place where the Wound formerly was, yet no swelling nor rising of the skin appeareth, as you heard formerly, then is it a sign, that within the scull there is a splinter, which hangeth inward, and causeth these prickings; in this case that place must be lanced instantly, and the splinter must be taken out, as hath been said.

Thirdly, In case the patient complaineth more and more after the Cure, not onely of the place where he was cured, but all his head is panting and broyling, accompanied with extreame pains. This is a sign, that congealed bloud is gathered under the scull, and is turned to an Imposthume. And if his eyes be swelled, and some bloud and matter runs out of his nostrils, then is it a more sign of it.

This infirmity may, with Gods help, be cured easily, as hath been said already: *Viz.* Cut off the hairs in the place where the pains are, lance the skin cross way to the scull, in the breadth of half a Crown, and put back the four pieces, that

that the skull be naked, then cut with a Raiser or other Knife a Wound into the skull, open it, that you may look into it, then the matter will start out against ye, and the Patient will be eased; and if there be any splinter at hand, you may easily see it, and take it out, as you have heard before. This is the onely way to help such a Patient. Such Wounds now made are soon healed again, onely govern the Patient well, as is fitting, and as I have informed you before: You must lay nothing to his brains, as I told you afore, for the brains will expel the things of their own accord, when they have a vent for it, without any further help, and suffer not any strange matter to stay or abide there.

Touching the cutting up of the skull, note, that there is no difficulty in it, and is done easily and quickly. For the skull gapeth and openeth, if there be any splinters or little bones there, therefore with a little help those small bones may be taken out; onely look narrowly to it, whether there be any fracture at hand, for you may easily discern, whether a splinter withing goeth down and inwards, or whether there be any more of congealed blood there. But if you find after the opening of the skin, neither fracture nor scissure, a hundred to one but there is, and however you are sure, that the skull must be opened, be it either by reason of the congealed blood, or by reason of an Imposthume; take a well-turn'd sharp borer, and bore thorough the skull at the place where the pain is, then the matter will startle out, and when the place is almost thorough bored, then work gently, and look well to it, that you cause no small bones with the boring to fall into the hollow of the head, for if so, then you will find somewhat to do, and not without danger.

In this case some will have (though I never had need of) that when the matter at the first opening doth not appear, then another hole, a fingers breadth from the first, is to be bored, and then to cut both these holes into one, and so to make a Wound into the skull: into that made hole you may see with a lighted candle in a dark place, and under-stand

Note the cutting up of the skull.

Another way to open the skull.

stand the cause; if you find then either congealed blood or a swelling, then touch it onely a little with an Instrument, as soon as it feeleth vent, it will soon come forth at the Wound. I should like this way well enough, in case any splinter or loose bones be there. But it is your duty to study in what manner it may be done most fitly and conveniently, as the condition of the case requireth, and to regulate your self accordingly. For it is impossible to set all down in writing, onely be mindful of the vulnerary potion, as you shall hereafter hear of.

To make
Head-plai-
sters.

Before the close of this matter, I will tell you how you shall prepare the Head-plasters, and the thin ointment, so often mentioned hitherto.

Make the Head plaister thus: \mathcal{R} Of Wax \mathfrak{z} 8. of washed Turpentine \mathfrak{z} 4. of oyl of Roses \mathfrak{z} 2. of the juyce of Bettony \mathfrak{z} 6. put all these into a pan, let it boil, let all the juyce boil away, when the other are melted, then take it off the fire, and put thereto pulverized Colophonium \mathfrak{z} 8. Mastix, Frankincense, Myrrh, of each half a drachm; this must be continually stirred, till it be so cold, that you may touch it with your hands, then work among it, *Oleum Storacis Calamita* \mathfrak{z} 8, make it up into rous, and keep it clean for use.

This plaister cleanse Wounds, leaves no unclean thing in them, and is pleasant and proper for the brains, and the whole head. Therefore use it as it ought, it will not deceive you, and doth better than Oyls, *Aqua vita*, Waters, Salves, as you heard above.

I will teach you another Head plaister, which is yet better.

Another
Head-plai-
ster.

\mathcal{R} Wax \mathfrak{lb} 1, Turpentine \mathfrak{z} 6. melt these together, being well heated, pour it into Rose water, let it cool; take it out and melt it again, and look that the Rose water come all away: afterward take of pulverized Sanicle \mathfrak{z} 1. and stray it into the melted Wax, and then all these following pieces; Frankincense, Mastix, Myrrh, *ana* \mathfrak{z} 1. prepared Calmy-stone \mathfrak{z} 2. *Terra sigillata*, or prepared *Bole armoniack*, \mathfrak{z} 8 all which must be purely beaten and strayed into: take it off the

the fire, and stir it continually till it be cold; then take it out of the pan, and work it with Camomil oyle, make it into roules, and then into cakes, and keep them for use.

Touching the thin Head salve, make it thus:

℞ Hart-Suet 3 ℞ purely skimm'd Honey 3 ℞ Aloes he-
patick purely beaten 3 ℞. melt the Suet, stir the Honey and
Aloes among it till it be cold, then you have a pure subtille
Salve for the head; at the using of it, spread a little of it
on a linnen, and apply it to the Wound; take heed that
nothing of it fall on the brain, which can endure no-
thing at all. These are the Receipts I impart unto
you.

Head-oliva-
ment or
salve.

Let it not be strange unto you, that I set down no more
Receipts, which I could easily do. But to what end are
pluralities of Receipts good for, but to confound him that
is to make use of them, insomuch that he knoweth not which
to chuse, or which to trust most unto. A Receipt which is
approved is better than a thousand which prove false. He
that is well grounded in Surgery will find Receipts enough
in his daily practise. For the Art consisteth as well in the
knowledge of Simptoms, as in the knowledge of Simplex.
He that well knoweth these two, will soon compose Re-
ceipts, either to weaken or to strengthen them in their ver-
tue, and all according to the condition of the Wound.

Many Re-
ceipts cause
errors.

Thus much be said of the Head-wounds. Touching
the Cramp and other accidents in Head-wounds, the
same shall be shewed unto the Reader in its due
place.

Now I will set down some examples of Head-wounds,
which, through Gods help, have been strangely cured; as
I have copied them out of my Fathers writing, after his
death.

I have, saith he, had occasion to dress one by night in all
haste, because he did bleed so much, that I was afraid he
would die under my hands before I could dress him. For
from his skull was cut off a great part, hair, skin, bone and all
clean away, and then on the left side by the temple a great
piece was cut off, skin, bone and all was gone: this Wound
looked

looked so ghastly, that I was amazed at it, for it did bleed so vehemently, and it was so great, that I could not cover it with my hand. I dressed it in haste thus: I covered the Wound with Mullipuffs, and bound it with broad Swathing-bands, and did no more to it, for I thought no other, but the Patient would die under my hands; I was forced to make all the haste I could, and had no time to cut the hair away about the Wound. The next day taking off the uppermost rouler, there I found the lint mullipuff stick close to the Wound, which I let alone, and poured round about warmed oyl of Roses, with some of that oyl also I annointed the Patient his neck and back bone, and so I dressed him again: At the next dressing I took off no more of that Wool, but that which easily came off, and daily I annointed his back with Cammomil oyl warm'd. I dressed him still in a dark still chamber, where no air should fall on his brain; and I had a care also, that none of my breath came into the Wound, and the things I intended to use to the Wound I had in readiness, that he in the dressing might not be delayed. The Patient was well governed in his diet, and quiet, according to order. The lint together with the blood came purely off from the Wound; but the brain began to swell, and in the outside the scull opened, where the brain pressed thorough all along, which a knife might have taken off, and it did pant and work, as if it would come forth and change his place, which it did more in the neather Wound, than in the upper, where the brain was not touched. To all which I did nothing, but dressed the Wound with the wound-plaster three-doubled, so that no air might come to it. At the tenth day the upper Wound inclined to healing, and the brains began to settle by little and little, and grew so little, that I could have laid a finger betwixt the scull and the brain, thus empty grew the head. And the brain sinking thus, I spied a little thing lying on the brain, which was not quite separated, in the rest it was wholly pure: on the *Pia mater* there began to grow flesh, which grew bigger and bigger; I wondered, that in few dayes there could grow so much flesh: but where that said impure splinter did lie, there

there it stunk extreemly, and would not come to any healing; at last the said splinter began to stir to and fro in the Wound, with a subtil linnen I took off nimbly as much as would stick to the cloth, the rest which clung not to the cloth I left there, for I still was afraid that he would die under my hands, though the twenty eight day was past already. At last I thrust that little splinter away also, so that I could see what was beneath it. There I found (there were present many honourable persons) that the brain was hurt very little, of the breadth of half a fingers joynt; in that place there was alwayes a moisture, as often as it was wiped away, presently another came into the place, and the flesh in it round about looked no other than like a raw Wound, in which there lieth a splinter, which hinders the healing of it: it grew thicker and thicker and soft, that I marvelled at it; yet it would never cover that place where the brain was hurt. At last when the flesh encreased, in one night it covered that place wholly, so that I saw no more moistnes, onely some matter lay there, And thus the whole head grew up with flesh, and I suffered the flesh above the scull to grow out, and hindered it not, for here his scull could not be metled withal. Now suffering this flesh to overgrow, then I straid in that flesh round about burnt Allum, but none into the middle, for there he could endure none. Afterward the flesh pressed forth at the Wound and scul so fast, that it drove out some little bones that were loose in the Wound, at which I wondered not a little, that so many small bones should come forth out at the Wound, At last he was cured of this dangerous Wound, and the flesh was good and sound, and not soft (as commonly it is:) for the which he owed thanks to God, without whose gracious help such remarkable cures cannot be performed; and not every one riseth sound from his bed of such heavy Wounds.

Hereto serveth this ensuing example also, that every one may see, that nothing ought to be laid upon the *Cerebrum*, and the *pia Mater*, because Nature in that particular worketh better, than any Surgeon may perform with his Medicaments.

An exam-
ple of a
splinter.

In the Jurisdiction of *Bern* it happened, that one received a Wound in the head, where the scull to the eye seemed not hurt, because his Surgeon dawbed it up in haste: But ten dayes after the Patient began to complain, every day more and more, till at last he could have no rest: it was time then to send for a Surgeon; among the rest I was called; after consultation had over the condition of the Patient, I opened his scull, at the opening of it there ran out much blood and matter; three dayes after within the scull there was a splinter about the breadth of a finger, where I had much ado before I could take it out, without further enlarging of the Wound; at last being taken out, the Patient presently was at ease, and inclined to healing, and was fully recovered from this accident.

Another
example.

I must quote one more: In the younger dayes of my travelling for to get experience, at *Nurnberg* I met with an acquaintance, being a Student, this Schollar was wounded on his head by a Cuttler with an old blade, and was dressed by the City Barber-Surgeon, who had good experience, and the Wound seeming little to the eye was soon cured, and both parties thought all had been well. Now hear what happened: ten dayes after the Patient sickneth upon a sudden, grew very weak in the head, feeling extream pains in that place where the Wound was, and before he could be helped he died. After his death his head was opened, to know the cause of his sudden death, it was found justly, as you have heard in the former example.

These examples I thought to quote, and no more; for if these are not understood, surely others will not be neither, though I should quote hundreds, and if these be understood, then in such like causes Surgeons have sufficient advertisement, whereby they may regulate themselves.

The Reader may take notice by these, that in Head-wounds use no Balsams, no Salves, no Oyles, no Head-powder, nor any such like thing, name it what you will: And stick onely to the Head-plaister, but so, that it may be laid over the Wound, after the manner of an Opodeldoch, therein lieth the whole Art and advantage; and if you use it in this manner,

manner, you effect more therewith, than with all other Salves, Oyles, Balsams, Pouders, that may be found in all *Europe*. For if you apply these Plaisters rightly, according unto Art, then the patient will be well, not onely in his head, but also in his whole body; it draweth all heat out of the Wound, and bringeth broken bones and matters better out of the Wound, than any tongs can pull it out; it covereth the Wound in such a manner, that no air can get in upon the brain, nor can any vapour get out, which fitteth and becometh Head-wounds exceedingly. Therefore if you follow this order, you will perform more than all those, which dance after the old pipe and fiddle, as it is apparent among the *Italians, French, Spanish*, and others: What a miserable thing is it amongst them, if they have in hand but a small Wound in the head? How many die in that way, by reason of their old abuses? I confess, the hot Climate in those parts may occasion somewhat. They write such great Volumes, of this and that, and so confidently, that even to this day they know not what to do, and yet they perswade themselves, that others must beleive and learn of them. I have been present more than once, that Patients were possesst with heat, feavers, dryness, yea, the great heat took away quite their senses; and there were used all kind of Medicines, Glisters, Purges, Potions, Coolers, but all would not help. But after I had applied my Plaister in the said manner, they mended, and without the use of any other Medicine, all pain, anger and heat was gone: from thence I could well observe, that their dangerous binding and dressing was the onely cause of all these mischiefs: and I may confidently say, that I have found the safest and fittest manner, and the best, to dress Head-wounds. In new Wounds much groaping and seeking is nought: I do not speak this by hearsay, but knowingly and experimentally. For if you touch too hard new flesh, which is but newly grown, it bleedeth presently, and separateth again: therefore have a care when you intend to cover a bone in the head, for if you do but touch hard the borders and outsidcs of such Wounds, they turn blew and go asunder, and will not so easily close again

or

or unite. Therefore you must take heed, to commit any fault that way, for after it hath been touch'd, it never closeth so easily again.

Thus I will close the relation of these perillous Head-wounds, hoping you will behave your self well, both in slight and dangerous Head-wounds; and therefore I will write no more of the slight Head-wounds: Much more could be said, how the causes of such mischiefs ought to be judg'd; but these are the chiefest things, which may lead you to the knowledge of the rest.

CHAP. IX.

Of all kinds of Wounds in the Face, be they in the Forehead, Temples, Ears, Nose, Cheeks, Chin, Eyes, how they ought to be cured, without leaving a scar behind.

When I speak of Wounds in the Face, you must note, as hath been said above, that I mean not scratches, which Children or Women cause and make one another, or Cats either, but such which bear and deserve such a name. In this Chapter I will treat of the whole Face, of the Forehead, Temples, Eares, Eyes, Nose, Cheeks and Chin.

Wounds of the Fore-head. Touching Wounds in the Forehead, these are to be dress'd as Head-wounds, yet are sooned healed than those on the Head.

Temple-wounds are more troublesome, because they bleed more, and are subject to more symptoms than those in the Forehead, yet are cured like those of the Head; thither I direct the Reader; onely these must be kept very warm.

Temple-Wound.

Note, that on the Temple is a sinew, which if that be cut, it causeth lameness in the jaw bone, which hardly, or not at all will be able to stir, which to prevent, let the Patient gape sometimes as wide as ever he can.

Wounds

Wounds on the Nose and Ears are cured all one way; if they hang downwards, then let them have one, two or three stitches, and the stitches must be made even, and take heed you make not too many stitches; when these begin to hold the flesh, then cut the stitches out again, and not let them rot there, which would cause ghastly scars, and keep these Wounds well together with rousers, because they are dangerous: Such Wounds heal freely, though they hang but at a little piece.

Nose-
wounds.
Ear-
wounds.

But if a Nose or Ear is altogether grown cold at the stitching, be not amazed, but stitch it on, and warm it with warmed Wine, in which is laid Sanicle, or Housleek, and being well heated, then apply it, afterward dress it like a soft Wound, and being healed to a skin, then let a scurf grow upon, it will heal the Nose finely.

Wounds on Chins heal easily and freely, if they be not cut downward, and need no stitching; but if a flap hangs down, then set two stitches. But, as was said by the Nose and Ear-wounds, to prevent ugly scars, which stitches usually leave behind, let them be ripped up again. Plaisters which cling hard ought not to be laid to Chin-wounds, whereby the tender and young healing would be broken again at the taking off the plaister. No great advantage to be used at the healing of such Wounds, being they are of a free healing; Wound-waters made of Honey and Wine are of good use for such Wounds.

Chin-
wounds.

In case the jaw bone be displaced by a blow, it ought first of all to be put in the right place; such Wounds, by reason of the jaws constant motion, do heal very hardly, not so easie as those in the Cheeks. Use no greasie things to these Wounds, which would cause naughty flesh, if not quite a fistulo; the manual herein is, to let the cure rest on a good strong Wound-plaister, which will do it: Apply that Plaister warm and well covered, and let the Patient gargarize twice or thrice a day, as occasion serveth: With this R. Of Wine ℥ 1. of Water ℥ 4. of Oak leaves ʒ 1. burnt Alom ʒ 1 white Vitriol ʒ ʒ. Mingle these, let it have a strong walm. This Gurgarisme, if the sooner used,

Cheek-
wounds.

keeps

keeps off proud flesh, and suffers nothing to grow in the Wound.

This following Wound-water is to be used also: *R* Of *Consolida major*, Oak leaves, *ana* M 2. boyl these in two quarts of Water, boyl some part of it away, let it cool, let the Patient wash his mouth with it luke-warm, and he will be healed quickly.

Eye-
wounds.

No Coolers are used to Eye-wounds made of the white of Eggs, as usually they do; neither is Turnip water good, which would make the Eyes sore, which abuse is very common. I have known some, which held themselves great Surgeons, who held it for a great Master-piece, to outrun the Eye in a short time, and kill the heat therein. But this is a horrible skill to spoil folks eye sight; these men little think upon Nature, and how little do they regard her help. Better wayes are to be considered of, for the Eye-wounds are very dangerous.

To use cooling things, and to apply them outwardly, is adviseable some way, and I intend to describe something also. For the Eyes are slimy, and love slimy things. If you have an Eye-wound in cure use this Collyrium, though metalline things are more pleasant and proper. *R* Oyle of white Lillies, oyle of Roses, Honey water, Verdigreice, or rather take the oyle of Ceruse, which is better: I say, the oyle of Ceruse is an approved thing in Eye-wounds, if you have not this, then make use of the other.

These things ought to be had in readines, for they are vertuous and effectual in such cases. I knew a Citizen at *Strauburg*, whose apple and stars of his Eye was wounded, his sight was recovered, though not so perfectly as he had it before the Wound, even by that oyle of Ceruse.

Unguentum Mucilaginis put into the wounded Eye with a spatle will clear the sight.

R Foenugreek, *Althea*, *Consolida major*, steeped in Oak-leave water, or Celendine water, as also a red four Apple boyled in Wine and Water, *ana*. *Item*. Apply the Collyrium luke-warm.

But

But in case there be a great heat therein, then cooling things are to be used, viz. whites of Eggs, Rose water, Bole on linnen: the following things are good also; Whites of Eggs, spawn of Frogs, Nightshade water, Rose water.

Lastly, if great pains be in them, then use this following: *Albumen oui, Succus hyoskami, Opium, Coquantur s. a.*

If a party hath received a Wound in the Eye apple, or the Eye hath received some other Wound, then in the first place note, that wounded Eyes must have drying things, and so the Medicaments must be made accordingly. The metalline ones (of whom hereafter) I hold to be the best. Courteous Reader, I will conceal nothing, but faithfully impart that which I found experimentally.

If an Eye be wounded, this is the Secret, I know, and is of great use in many other cases. A Secret for wounded

℞ Virgins Honey, which of its own accord is fair and Byes. clear, and need not to be more clarified, ℥ ss. mingle with it the juyce of fresh red Roses 3 4. pulverised white Vitriol 3 ss. Verdigreice 3 4. put all these in a glass body, distill it in *Balneo Maria*, you receive two waters, the first and the last, this last is the better of the two; of these waters you may safely drop two drops into the Eye. Afterward take one part of this water; and the mucilage of Foenugreek, ana, break to it the yolk of an Egg, beat these well together, warm it a little, spread it on a doubled cloth, apply it to the Eye, all pains will be gone at the third or fourth application, and will come to healing.

The mucilage of Foenugreek is made thus:

℞ Foenugreek purely beaten 3 ss. pour on it of Rose water 3 2. you may add to it, Fennel, Celendine and Eye-bright water, let these stand a while in a heat, it turneth to a mucilage, which must be prest through a cloth, and used as you heard. Some use also Gum Tragant, and Gum Arabick, with Henbane. Dayly experience will produce more and better things than may now be written: if you apply this slimy plaister, first moisten the wounded place with oyle of Roses and blew Violets, that the plaister may not stick to the skin, that afterward you need not to take it off forcibly,

especially when great anger is therein. Take heed, that of this plaister nothing come into the Eye, though it be no hurt, but onely bitteth. The heat and anger being removed, then the next and best that I know, is the red oyle of Ceruse, drop two or three drops into the eye, and round about the outside annoint the place with the white oyl of Ceruse, it is a marvellous healer and true metalline cooler, clarifying the eyes, and preventing other symptoms. This is generally used for the eyes, and found never a better. And with these onely, by Gods help, I undertake to heal swelled, beaten and wounded Eyes and eye-lids, though they be never so much bloudshed, and full of congealed blood.

How is the oil of Ceruse made?

With distilled Vinegar. The red oil, which I commend so much, is made thus:

Take Ceruse lb 1. well grinded, pour on it distilled Vinegar twice drawn; the first running is put by, and the last, as the strongest, onely taken, lb 3. boil these together for half an hour, and then set it in a warm place for three or four dayes; then put it in a coated Retort, set it in the open fire, let your first fire be gentle; and draw all the Vinegar into a Receiver; which being done, then increase the fire so long, till you see red drops coming; which must be received apart, and still increase the fire so long, till nothing comes. Its true, you will get little enough, but as little as it is, as great vertue and efficacy it hath, not onely in the Eye symptoms, but also in other things, which in its due place shall be spoken of.

I know these things, according to this proces, may not be had every where, and in case these things could not be had timely enough, then other things, as good as they, may be had; must be used; for in case of necessity, means present are not to be refused, and I allow of them, if so be the Eyes be not killed, or otherwise spoiled.

In the last place note, in case the eye-lids hang over they must be stitched.

A certain Merchant was cut over the Nose, and one of his Eye apples was hurt also, that Wound was cross the Narre.

That

That party, next God, was helped onely with this red Oil
Lead, or Lethargif.

Another party received a splinter of wood in his Eye,
where it stuck two grains deep in, this oil onely recovered
his Eye.

Another party spoiled his Eye unawares with a sharp
wood, a Surgeon made experiment on him with the white
of Eggs and Bole, whereby the Eye was killed, and when
there was no more hope left, half the Eye was loosened, and
the skin of it wrinkled. To the party I, being called, used
my Medicine you heard of, and put of the red oil into the
Eye, he presently felt ease, and the eye was perfectly cured,
but onely it was not so clear, and a spot staid in it, and I am
perswaded, if I had been with him at first, I could have cured
his Eye without defect.

For good men and womens sake, I will teach you how
Wounds are healed, and leave no scar to be seen in the face
or any where, or else they shall hardly be discerned. Here
I except such Wounds that were stitched, and where the
bones were shattered, and where veins and sinews are hurt:
I speak onely of such, either great or small, Wounds in the
face or elsewhere, that are not very deep, and where the skin
onely is broken.

To heal
Wounds,
not leaving
a scarr be-
hind.

Re. Good *Aqua vite* drawn twice or thrice th. i. put it
in a glass body, put thereto Bean-floures 34. which must be
dried a little, cover it with a smooth parchment, lute a head
to it, set it in luke-warm Water, or in *Balneum Mariæ*, as
deep as the glass is filled; lute a Receiver to it, let it stand
there so long, till you see drops of water lie on the parch-
ment, then open it, that which is in the Receiver keep in a
glass apart, well stopped, that nothing exhale. Whilst the
body standeth in Balneo, apply cold wet clouts to the head,
and another clout on the Receiver, that the spirits of Wine
may cool, and resolve into drops.

At the using of it, take the single threads, or ravellings of
linnen, wet them in this Water, cleanse the Wounds with
them, let it lie in the Wounds, lay a fine soft boulder on it,
and bind the Wound close that no air come into it, thus

Wound must be drest twice a day, at the healing no scarr will be seen. Use no other Salve nor Plaister, else this Secret will do no good; you need not fear that the spirit of Wine will burn much in the Wound, you may safely use it.

CHAP. X.

Of Wounds in the Throat and Neck, how a Surgeon ought to deal with them.

After the Wounds in the Head and Face, follow the Wounds in the Neck and Throat, of them I will treat now: Here, as I have told you before, I do not speak of slight and small Wounds, but of dangerous ones, where partly the great blood veins are hurt, when the sinews of the Neck, and the Wind-pipe, or the like is wounded; my information shall be according to these, hoping that he, who can heal such Wounds, may heal also those which are less dangerous.

Neck and
Throat-
Wounds are
dangerous.

Now to speak of these two sorts of Wounds, first note, that these are very perillous, and subject to all manner of symptoms, by reason of the exceeding great pain; and such things are incident, viz. Cramp, Palsie, Apoplexie, Wound-consumption, and such like, and so they must the more wisely be dealt withal: and I will give a particular instruction of each Wound, because there is some distinction to be observed; and in the first place I will speak of the Neck-wounds.

Neck-
wounds.

As I have informed you formerly, that as I do not mean here any slight Wound, so on the other side you must understand, that I mean not such Wounds, where all the Neck is in pieces, for such Wounds surely bring death along, and are incurable. But here I speak of all such Wounds, when the Neck is hurt grievously.

Note also, that the Neck dependeth from the Back bone, and

and hath great affinity with the Brains, out of whose hinder part runneth a marrow along, like a rivelet through the Neck and Back bone. Therefore all what I tell you here of the Wounds of the Neck, the same you must take also for the Wounds of the Back bone, for these are cured all one way. Therefore the things spoken of above may be drawn hither.

Therefore, as you have heard above, you ought not to stitch Wounds in the Neck, nor to put a tent into, much less ought you to search and to sound them with any Instruments, how deep and how large these Wounds are, whether stabbd or cut; do not sound them, let the depth be what it will, never trouble them, else you cause all manner of sorrows and dangerous symptoms, and so you make the last worse than the first was.

Proceed thus: First stretch the blood, as you shall hear; and having removed the Blood-stecher, then take a good Wound-ointment, which you shall find described in its due place in the Chapter of Wound-salves; make it luke-warm and pour it into the Wound, then apply a good plaister upon, be it a stiptick one, or an Opodeldoch, and cover it with a defensive Plaister made of Beans, which must guard the Wound round about. This Plaister, when there is great pain at hand, must be applied fresh several times. Have a care, that the lowermost Medicaments, which lay next the wound, do not cling and stick to the defensive plaister; therefore betwixt the lowermost and the other lay a cloth, on which do ye rest the defensive plaister. But in case the Wound be not pained, then there is no need of the Defensive Plaister, because it doth not alwayes good. Anoint then the Patient with warmed oyls of Cammomil, of Rose oyl, mixed with a little Saffron, or annoint the patient round with Gray-s grease, his Neck, and Back bone, and the Wound also, and look carefully to the business. Govern the party in his diet, as you were told at the Head-wounds. Keep him from cold and air, and let him be quiet, and not stir much, and be temperate in eating and drinking. You may apply also to his Wound a Sandel plaister, which I call the red Sandel

Neck-
wounds
ought not
to be stitched
nor tented.

The true
proceeding.

del plaister : with these things you proceed in the cure , till you come to a perfect healing.

Note the
signs by rea-
son of dan-
gerous sim-
ptomes , as
Cramp,
joynt-water.

These wounds being very subject to simptoms, and among the rest to the joynt-water , which in the whole body is no where so dangerous , as it is about the Neck and Throat, especially when a Cramp falls into, therefore you have cause to look the better to it, and to prevent such accidents. But how you must behave your self, touching the joynt and sinew water, and against the Cramp also, with the brown Ointment, you shall find direction for it in the third part of this Book, or else in some other place.

Throat-
wounds.

True pro-
ceeding.

Touching Throat-wounds, these you must trouble as little with Tents, and with the Secker, as the other in the Neck. Proceed thus : If you have a Throat-wound in cure, where the bloud issueth forth mainly, so that there is fear that a bloud vein hath been hurt, or that the Swallow and Throat be cut, then note, if the Wound or Stab be deep or shallow, near the Ear, then you may stitch it, but not slightly, as commonly is done, but must be drawn strongly together cross-way, so that neither breath nor bloud can get out, then apply to the Wound an Opodeldoch, with a defensive plaister upon, which is described also in its due place; this do so long till the anger be past.

Having drawn the Wound together with that stitching, then is it requisite, that you have a good Medicine, which penetrate with its vertue, and that is the Magnetick plaister, which is described in Books of Decoctions, truly that will draw all matter; you need not to use any other thing to the Wound, but onely apply this plaister great and thick. Let it not trouble you, which way the matter in these wounds goeth; for Throat-wounds afford not much corruption, and the Opodeldoch is of that quality, that it leaveth not much uncleanness behind. If the Wound be great and wide, so that you fear it may not be stitch'd that way, then let it alone, for common stitches will not hold in this case, and keep in the bloud from issuing forth; therefore make use of a Bloud-stencher, and proceed further, as you did with other perillous Wounds; and if you

use any plaisters hereto, then spread it thick, that the air may press the les thorough, for the swallow is a substance which can endure no air at all. But if the throat be hurt at the side, then do not stitch it, especially if the Wind-pipe or swallow be in pieces, for if a swelling should be incident, the patient will be choaked, or perish in his food.

And if the Wound be not great or deep, then do not stitch it, and draw much flesh into, it would cause an ugly up-cast scarr.

For at the Throat usually happen gross scarrs, and therefore take heed of many Ritches there, and of too much flesh, and if you can, endeavour to heal it up to a scurfe, for if you suffer the flesh to grow freely and high, then the scarr will be as big as a great nut, therefore be not neglective in the preventing the symptom betimes, else it may be too late to undertake the opposing of it, you ought not to put into the Wound any Salve, oyl, or Tent, for it may as little endure any Tent as the Back bone, by reason of the variety of sinews which are in the Throat.

It being a thing more usual in Throat-wounds, that swellings are incident, whereby soon great sorrows and troubles are caused, therefore is it requisite, that there be used, besides the defensive Plaister, a Gargarism, not onely the sooner to further the healing of the Wound, but to assuage also the pains. And if there be not heat at hand, then take Wine, else do you take Water lb 3. put one hand of Mallow seed, boil a third part away, which being done, then strain it through a clean cloth, put thereto of Honey ℥ 2. boyl it again, after you scummed it put it in a pewter dish, put to it of *Storax Calamintha* 3 $\frac{1}{2}$ and so let it stand for your use. Some add a little Cinnamon, which cannot be amiss. Let the Patient use this water several times a day, it will not onely further the healing, but ease him of his pain, and keep off rheumes. This Gargarism may safely be used also in Head-wounds, and is effectual alwayes.

Touching the joynt-water, when that commeth, then carry your self as you shall be instructed in the Chapter about the joynt-water. And if accompanied with great pains, then

Gargarism.

If the joynt water comes with pain

then take notice of the causes and signs thereof, that you may know whether the Prunella or inflammation be either at hand or coming on, and if it doth signifie the Wound sickness, or any other thing, then proceed as you shall be informed.

If a heat comes.

All such that are troubled with such deep Neck and Throat-wounds, and endure great pains, then use smarting plaisters, it will ease them.

One thing more; in case the Patient feeleth great heat, either in the Head, or in the Face, and by reason of it feareth the Prunella, the Wound-sickness, or other such like, then phlebotomize the Patient chiefly under the Tongue, if it may conveniently be; for such phlebotomy cooleth much both Head and Throat, taking away all the heat, quencheth thirst, opposeth many symptoms, and maketh the Wound forward unto healing; therefore neglect not Phlebotomy in these Wounds, if need, not else. These veins you may safely open in Head-wounds where any heat is felt, surely it will not be fruitles.

CHAP. XL

Of Wounds at the Breast, how a Surgeon ought to behave himself there.

Of Breast-wounds.

TO speak of Breast-wounds, I mean not small slight Wounds, which require no singular great cure, being without danger. By Breast-wounds I understand the first part of the Ribs. If a party be wounded there, and the Wound is not gone through the body, then no great danger to be feared; and upon that you ought to deal, as usually is done to common Wounds. For those Wounds, which deeply run into the body, are very dangerous. It falls out in such wounds, that the stab doth not go deep into the wound, and yet one of the inner members is wounded. Sometimes a party is run quite thorough, and yet no internal part wounded. Let the condition of the Wound be what it will, you

you must note first, a party being wounded at the Breast, commonly there cometh a wind out of the Wound, which is like unto mans breathing; here you must have a care, for that is from thence observed, *viz.*

In case an internal part is wounded, then there is a remarkable sign accompanied with it. For if the Lungs, or the Midriffe, which distinguisheth the Lungs from the Breast, is wounded, then is the Patient troubled with a continual cough, and there appeareth a scum in the Wound, and the Patient is full of pains, and can hardly fetch breath: if the heart be wounded, then no remedy expected, of which I say nothing more, for the party dieth presently, for no Art nor care will avail here, however be not wanting on your side, dress his Wound as Wounds of Lungs usually are drest.

Signs of internal parts wounded.

Of the same conditions are other internal wounded parts. And in case the party be quite run thorough, without hurt to the internal parts, yet that Wound is to be judged and undertaken as perillous and mortal. For though none of the inward parts be hurt, yet it may be, that that thrust hath hit some of the white veins or sinews on the back, which is dangerous, by reason of the affinity they have with the Heart. It happeneth many times, that when a party is wounded in the Back, that he falls lame, either in his hand, arme, or elsewhere, where no defect at all was, which is caused onely by those white veins that are hurt.

Back: wounds are a cause of lame members.

Touching the cure of such Breast-wounds, I intend not to give any other doctrinals herein; but what hath been made known at the dressing of Throat-wounds. Onely concerning the defensive plaister, that may here be omitted, unless the Back bone be run thorough also, and great pains are felt, caused by the hurt sinews.

Breast: wounds are red.

Therefore as I have informed you in Wounds of the Throat, what you should do touching stitching, so you must note here also, that Breast-wounds are to be stitched, and the stitches drawn strongly together cross-way, yet, you may use twisted stitches, because they go easily asunder, by reason of the breathing which constantly is against it, where, by they are forced asunder. And whereas breathing hinders

Stitching is permitted.

the vapours, and the air the healing, therefore the Wound must be stitched as close as possible may be,

After that use no more but the green Salve, which enforceth the healing, then lay the Magnetick plaister upon, and bind it quickly; care not what course the matter taketh, or which way the blood runneth; for it ought not to have any vent, and may get perhaps more vent than the Surgeon shall well like of. Bind it well with warm clothes, but not too hot, else it would incline to a fistulo, neither use any Tents, and above all, search not with the Iron in the Wound, which is a cursed custom.

Stitching
when dis-
proved of.

In case the Wound be so great and so wide, that it cannot be drawn together and stitched, but it will keep some vent, then omit stitching altogether, because such stitches would break out and burst asunder, by reason of the breath, which if it hath but a little passage, it presseth more vehemently against the stitches, as when the Wound were more narrowly closed.

Take heed
of flat and
round tents

In such Wounds use neither flat nor round tents, but only put in your Tent-ointment, and then lay your plaister upon; for the wounded parties breath being drawn, would strongly draw also the Tent into the body, and the Patient would bring great misery upon himself, and cause his own utter ruine, because that indrawn Tent must lie on the Midriff, or *Diaphragma*, and rot there; and indeed no wick or tent is fit to be used in these Wounds.

Cold and
hot dress-
ings are
dangerous.

Note also, that cold and warm dressing is dangerous, and hot dressing is more dangerous, because it causeth infallibly a putrefaction, as experience sheweth. For many suppose, that hot dressings and hot Medicaments were best, but the contrary ensued upon, as hath been known. Therefore a medium is best in all things, let it be neither too hot, nor too cold.

How to
dress breast
wounds
that cannot
be stitched.

If you undertake to cure a Wound which cannot be stitched, then use a strong Blood-stencher unto, as you heard above, and more of it followeth after; and at the taking off the Blood-stencher, and at the dressing again, all necessary things you ought to have in readiness, as I told you above, that.

that the Wound be dresst nimblly, that the parties breath may not pass much thorough, which would be very hurtful. All this must be done in a dark place, and sharprough air be kept off. Have a great burning Candle by the hand, you shall see that the breath that cometh forth out of the Wound will blow out the Candle.

Air hurtful to the Wound.

Hence you may gather, that such Wounds are endangered if not quickly dressed; and a care must be had, that the Lungs draw not into the body the rough air, for if you suffer this to be done, the Patient will never be recovered. Breath, if it gets but a little passage, and is warm, it causeth moist vapours, whereby are caused internal Fistuloes, and hot feavers, with the loss of understanding and sense, and so all natural means lost.

Internal E-
Anticoag, hor
feavers.

Therefore use such Plaisters which stick and cling easily, and suffer not air to come by, and use such Suptick Plaisters in manner of an Opodeldoch, or use an Opodeldoch, which is very useful in such cases.

By these things may easily be gathered, that Cataplasmes, which in such cases are too much used, are useless altogether, for they are too weak, and have no power to oppose the air and breath, and besides they are too moist, and so they further putrefactions.

**Cataplasms
of no use.**

I know, that there are many which will not like my manner of dressing, no more than I like other mens dressing: for some may object, saying, If a wound in the said manner be stitched and closed, whether runs the blood? Doth it not run into the hollow of the body? where it may doubtless cause great troubles and miseries?

Answer : For the taking off of this doubt, note: Dayly experience witnesseth, that Breast-wounds, which can be thus fitched, have no where such danger, as those which cannot be fitched. and it is known, that that which is inwardly hurt sooner healeth, because no air troubleth it, than that where the air cometh to it: For the air in the hollow of the body is judged mortall and deadly. Touching the blood, which, you say, runs into the body, troubleth me little. For Nature, which alwayes endeavoureth to help her self, turneth

that blond into water, which if good and fit means are used, may be expelled by sweat and urine.

Objections answered. It may further be objected, Whether runs the matter?

Let not that trouble you, it is consumed and expelled through the Opodeldoch, and further removed by stool, with the help of Medicaments. Where you may note also, that the Breast-wound being healed, loosen and thrust off the stitches, and leave a passage, whereby the matter can pass and run out. And before that is done, the Wound is well set and healed, and the fear is the less in that particular, provided that the Patient be still kept as he should, as you heard above.

Objection. Why do you not stitch other Wounds also?

Marvel not at it. These Wounds have room enough to yeeld their matter, which other Wounds in outward joynts and members have not,

CHAP. XII.

Of some particular symptoms which are incident unto Breast-wounds, how Surgeons ought to behave themselves here.

Breast-wounds have many symptoms.

Breast-wounds have symptoms incident to them, more than other Wounds have, which in this place I will mention in particular. For touching other common symptoms of Wounds, of them, in its place, you find sufficient instruction.

How to do when a tent is gotten into the wound or body.

In the antecedent Chapter I have told you, that you ought not to use any Tents in Breast-wounds, nor any other ravelings, and the like rags, for a reason alledged.

There are some Surgeons found, who use their tents in an ignorant way and gross mistake, and put such like things into Wounds, which afterward are sucked in by the breath of the Patient into the Breast, and the Patient is thereby brought into extream danger. I have seen such Patients, who having drawn.

drawn and suck'd such tents into the body, dyed of it. Therefore have a care, that you use no flat and round tents untied, unless you guard them well; nor make any such tents, as if you would heal therewith another hole: There is no need of any tent, but onely of a Salve and plaister, and by a nimble and quick dressing keep out the wind, air and cold.

Others that use Cataplasmes, or linnen dipt in warm Wine, I leave them to their old custom, for many Surgeons that are experienced use them, and my Writings are not for them, but onely for Novices. If any such Wounds comes to be cured by you, then stitch it closely that it have no vent, for the Wound will get vent before you shall be pleased with it. Be diligent and quick in healing, which if you do it not quickly, you will hardly do it afterward. And let the Patient have a vulnerary potion, over and above, for these are such Wounds where the bones are hewed and cut thorough, and help Nature that way: Wounds that are before are more dangerous than those behind. Use no tents nor searchings in the Wounds, for you will meet with difficulties enough, make you all the haste with the healing; make use of the green Salve and Wound-plaister, these are sufficient, bind and dress it well. I have never made use of warm Wine, nor of any Cataplasme, because I know it will keep not long warm, though it be applied so.

In case some mischief should happen by the falling in of something into the Breast or Back-wound, and you are sure that something is fallen in, then look whether you can see it, and set the patient into a very dark place, light a great candle, being of Wax, hold it directly at or over the Wound, then you may see better into the Wound then when the Sun shineth, feel not and search not into the Wound; if you never felt into the Wound then you may, if it be fit, if not, then this is the best advise, *viz.* Make a Lavament of Liquorice, let it run gently into the Wound through a Sirenge, that the in-fallen thing be not stirred, the patient must keep in his breath, and then let it go gently. Ontake Water and Wine, ~~and~~ dry Rose leaves, a few Cammomils and Mallows, boyl these together, pour it out, being settled, cant it off, use the

the clear, make it luke-warm, wash the Wound with it several times, though some of it comes into the body it doth no hurt, and is consumed, and cometh forth when you let the rest run out of the Wound. Having used this Water to the Wound, then let the Patient suddenly cough, then the water will partly run out of the Wound, and bring forth that also which is fallen in, which you can take hold on, and draw it out fully: if that will not do it, then place the Patient with the Wound downward, that the water may run out, then look to it, whether there be not a partition at hand, before you set the Patient upright. This water you may use safely, for it will not hurt the body at all.

This is the onely remedy, which I know in this particular is used, which if it will not help, and the ravelings stay in the body, then nothing else is expected but a miserable chronicall disease, which will produce nothing but death, of the which I told you also formerly. You see the reason, why such dangerous abused attempts upon wicks and tents should be shunned.

A Cough Patients in this case are commonly plagued with a cough, is hurtful to which is extremely dangerous, and chiefly in Breast-wounds. breast-wounds. Therefore great care ought to be had, to resist it with convenient means, either before or after, purposely prepared, The remedy for it. which are to be given to the Patient, either in a Potion, or otherwise. Some Apothecaries shops afford the like: as *Morsali irias*, *morsali diarragacanthi frigidi*, and such like. Item. *Lehuoh samon* made of Foxes lungs, item. Syrups of Hyssop and Liquorice, &c. every Surgeon should know what is to be done herein.

**Pectoral
potions.**

Some Surgeons use pectoral Potions, which are good, and not to be rejected. but thus much I say, distinction is here to be used, because these are not good to all Wounds indifferently, therefore I will set down some which are good in this particular.

True po- A Patient being troubled with a Cough, and is put there-
steral poi- into some danger, then R. Liquorice 3 i. Annise seed,
son. Rutins, Hyssop, 3 ii. Speedwel, Lungwort, and 3 i. Wa-
ter 7 ii. Boyle these together, so that there remain 16 3.
- strain

strain it through a cloth, put to it of Honey lb. ss. boil it a little more, scumming it well, let the Patient drink of it mornings and evenings, it will do him good.

Another which is good also. \mathcal{R} Liquorice \mathfrak{z} 2. Mallows \mathfrak{z} 1. Walwort \mathfrak{z} 1. Water lb. 8. boyl these to lb. 5. strain it through a cloth, sling away the root and hearbs; put to this water of Raisins \mathfrak{z} 3. Sobesten \mathfrak{z} 1. Iujuben \mathfrak{z} 1. Lungwort, Maidenhair, *ana* \mathfrak{z} 1. Annise seed \mathfrak{z} 2. boyl these to lb. 3. strain it, and dulcifie it with Honey and Sugar, and minister it as you heard. Another.

Note, these Breast-potions must be thus prepared, that urine thereby be provoked, being the Lungs or other parts are hurt, which these are good for, and that the matter and blood, which sticks and staves in these places, may be the better expelled by stool and urine, therefore it is good to steep Rhubarb and Sene leaves in this drink, that it may work the better: and in case heat and sharp humours are at hand, then use the seeds of Cucumbers and Melons, and if need, you may use also Gum Galban and Ammoniack, inwardly and outwardly, because these are commonly used in such cases.

And in case the Lungs are fallen into a rottenness, which you may know by the Patients breath, if stinking, and his daily undisposedness: if it be so, then it is a sure sign that the Patient is in deadly danger, and all remedies will hardly help. Corrupted Lungs.

In this case, I know this Secret to be good against internal Imposthumes and putrefaction of the Lungs. \mathcal{R} Pure Turpentine lb. 1. put Well water to it lb. 6. put it in a glass body, lute a fitting Helmet to it, distill it in ashes; when lb. 1 ss. of the water is come over into the Receiver, then leave. At the taking off of the Receiver you will see the spirit of Turpentine on the water, which separate from the water. \mathcal{R} Of this spirit \mathfrak{z} 3. and well prepared flowers of Sulphur \mathfrak{z} 1. put these into a glass body, lute it well with *Hermes* his Seal, let it in water not so hot, else the spirit break the glass, and let it no deeper than the glass is full; let it stand in a constant warmth eight or nine dayes, you will see. Bilam for purrified Lungs.

see these spirits turn bloud-red, Then open the glass, pour this red Turpentine into a less glass body, pour to it of the best *Aqua visa* 3 1. fit a Helmet to it, set it in Balneum, distil off the humidity, there remains a bloud-red oyle or Balsam in the bottom, for the spirit comes over in the Balneo. Keep this Balsam for use, it is pretious, it is an effectual remedy against all putrefaction, none like it, minister gutt. 3. in Rose water, or other convenient Vehicle; it is of a good scent and rare vertue, is used inwardly and outwardly, and is of no corrosive quality.

The balsams use

Juniper oil.

In this manner Juniper oyle may be prepared, which expels all rottenness and stinks, is a rare Secret also, but requireth a longer process, and its needless to set it down here.

To make floures of Sulphur

Floures of Brimstone are prepared thus: R Pure yellow Sulphur very well beaten lb 1. calcined Vitriol and white Salt, ana lb 1. mingle these, put it in a glass body, fit a Helmet to it, encrease the fire under it by degrees, and make the Sulphur rise into the Helmet; then let it cool, take out the sublimed Sulphur, mingle it with fresh calcined Vitriol and Salt, and sublime it again, take out the floures and weigh them, put to its quantity as much of red Myrrh, and as much of Aloes hepatick, and a fourth part of oriental Saffron; mingle these with the floures of Sulphur, put it in a glass body, and sublime it once more; this sublimate hath an admirable vertue; and if it be dissolved in spirit of Turpentine, then is it more penetrative.

CHAP. XIII.

Of Belly-wounds, and the inward parts thereof, how Surgeons must deal with them.

Wounds in the belly, if not quite through, are not dangerous: Here I comprehend all Wounds from the breast to the privy parts. Of slight Wounds in the belly

I speak

I speak little onely of the great Muscles which are about the Navil; if these be hurt, then they must be well looked unto, because they are dangerous; they easily putrifie, by reason of the abundant humor of the belly, anger and inflammation soon getting into, and thereby great miseries are caused, if not prevented: I intend not to speak of all the circumstances, but briefly of the chiefeſt.

The Belly being stab'd or cut thorough, then the inward parts are hurt thereby, which is known by some signes. For if the Patients food comes to the Wound, then is it a sign, that the Romack is hurt; and if the excrements come into the Wound, then is it a sign, that the guts are wounded, and so of the rest.

Signs of inward parts hurt.

Wounds of the Romack and guts.

Whatsoever inward part is hurt it is dangerous; for the Wounds of the Liver and Milt are perillous, as also the Wounds in the Guts; the Wounds of the Gall, Reines and Bladder are counted mortal, and those also of the Stomack. Surgeons must deal here, as they heard partly about the Breast-wounds: Wounds of the Lungs are held mortal, by reason of their constant motion, more than the Wounds of the Liver and Milt. These Wounds must not be stitched, but ought to be healed with sliptick Plaisters; neither must these Wounds be troubled with the Seeker or iron Instrument, for if the Belly be run quite thorough, how can you sound the Wound with the Instrument? And if any blood vein was hurt, and stetched again, how soon may it be made bleed again with the Seeker, and make the thing worse than it was? Heal the Wound outwardly, its inward cure chiefly depends from a good diet and phlebotomy; you may, if you please, make for such a Patient a vulnerary Potion, made of Walwort, Scellacia, Starwort, and Liquorice.

Wounds of the Liver, Milt, Reines, Gall, Bladder.

Touching the Wounds of the Entrails, the old custom may here be followed, viz. to stitch the wounded Entrails, and cleanse them with Milk, in which Annise seed is boyled: However these Wounds are counted mortal, and it is a hard matter if ever they recover, because inflammation soon gets in.

Wounds of Guts.

This following is a rare Master-piece : If a Patient be wounded in the side or body, and you fear the Milt or Liver is hurt, whereby commonly great swelling is caused, then take this oyle, and annoint the Wound about, two hand-breadths, it will allay all hardness of the Wound, be it in the Belly, Liver, or Milt, and that in a short time; it is the rarest Remedy for such Wounds, as experienced Surgeons know. For such hardnesse cause inflammations and feavers.

Oil for a wounded Milt. { This Oyl is made thus: R Of distilled oyl of Gum Ammoniack $\frac{3}{2}$ of common Annise seed oyl $\frac{3}{4}$. mingle these together; if the Wound is near the Liver, then use of Populeon $\frac{3}{2}$. and leave out of the Annise seed oyl $\frac{3}{2}$. enough of this at this time.

Urine run out of a Patients Wound. I will quote here a notable example, of one, whose urine run out at the Wound, and was recovered. Anno 1618. in September, not farre off from *Hamborough*, called on the *Geys*, a Marriner, born at *Gripswald*, was stabbed with a knife, a hand-breadth above his privy members, at the right side; his urine run out at the Wound all day long, and was cured by Gods help in this manner. First of all I stenchd the blood, then I applied to the Wound an Opodeldoch, and a Bean-plaster, in this manner I dressed him but once a day, to give no cause to the urine to pass onely at the Wound. I used no tent, neither did I sound the Wound with the instrument, for fear I should touch any blood vein, and so cause a fresh bleeding. I ministred to him warme Beer, in which was steeped Clophium, wood Puslane. I let him drink no other, and kept him in his diet as a Patient ought. By these means I reduced the urine to its right place in three dayes, and the Patient recovered in a short time. How could any one tell, what had been hurt here inwardly, but onely by the urines coming to that way? whether the fleshy part of the bladders neck was hurt or no, troubled not me, nor stayd me in the healing of him, for my chiefest care was to reduce the urine to its natural course, and not to run through the Wound, and to cause a great deal of paine.

CHAP. XIV.

Of the Wounds of the four outer Joynts, and of Joynts contused, all comprehended in one Chapter, where you may find several good manuals and examples quoted.

THe Wounds of the four outer Joynts I comprehend in one Chapter, because their cure is all one, onely in the handling of them there falls in some difference. Here I speak not of slight Wounds (as hath been often said) but such which deserve the name, & which are subject unto symptoms. For slight Wounds be they in the Head, Neck, Belly, or any where (which ought not to be too much slighted neither, because from a little hurt great matter may come of it) may easily be cured, with pure Cloath or lint, Wine, Water, Salt, &c. for the natural balsam in Man doth much, and applied Medicines perform not the cure alone. Wounds subject unto symptoms, where the natural Balsam is disturbed, must have other meanes ordained, because every symptom requireth a particular expulsive Medicine. I could divide these Wounds into several sorts, as into Wounds of the legs, flesh, sinews and veins: it happeneth sometimes, that all these four parts are hurt at once, and yet onely one of them wounded; this is the reason why I put them together into one.

Note, that you ought not to stitch any such Wound, unless there hang down a great flap of it, and chiefly have a care you stitch none of them that went into the great Muscle or joynt, as in the Shoulder, Elbow, Hands, Knees, Knockles or Ankles, for if you stitch them with needle and thread (as the fashion is), you will cause onely great paines, which would prove a fore-runner of many symptoms. Rather stitch them with a twisted stitch, or twisted Silk, for these must be stitched strongly, more strongly than other Wounds, or else they break out again. For if you should stitch a Wound on the Shoulder like one on the Belly, that stitch would not hold a day and a night. Therefore I advise you to use a very strong one, especially one upon the Wound as strong as you

Joyn-
wounds not
to be stitch-
ed unless it
have a flap.

To stitch
with plat-
ters and
bands.

can, yet stitch not too deep, for fear you hurt the sinews or veins, for too much is nought; be moderate, prospective and cautious in stitching, and not too hasty. Then apply the stitching plaister on the stitches, it will help to keep together: pull them even and well together with the plaister and rollers, holding them together as long as you can, for it is good for the members and sinews, and very good to further the healing. Though the Wound for all that doth keep asunder, let it not trouble you, but go on, and press the Wound together, as it ought, at the several dressings.

Flap-
wounds.

If you have in hand a flap-wound, then do not cut off the flap, as many do, for Nature may strangely recover that, and close it in a short time, therefore proceed thus: Stitch on the flap, but not over-stitch it, for fear you kill all the life in it, and after the stitching apply a Stitch-plaister to it, trouble it not with any feeling in, and sounding, and trying whether the stitch hold; and let the stitches not eat thorough, these else will cause scarrs; neither must you put any tent, be it flat or round, betwixt the flap and the body, nor suffer any water to come betwixt, but press the flesh side of the flap close to the body. Bind the Wound not too hard, but close and gently, as the flap requireth, and cause as little pains to the Patient as you can; choak not the flap, else inflammation is caused, and make it thus, that the stitches do not hold all, but the band also must help, as you heard.

To take off
the plaister.

If you take off the Plaister, then pull it off not against the flap, which would cause great pains, but take it off with the flap, or by that side where it hung on a little, and by no means against the flap, and apply not any strong clinging plaister, else at the taking it off you stir the flap and disturb the cure; the flap must be bound gently one manner of way, and not to day so, and to morrow another way, else the flap is hindered in its closing with the other flesh.

If you have made two or three stitches, let the Silk not hang down into the Wound, else it causeth matter and slime in it, and hinders the flap in closing.

Have a care also you do it not too hard, nor pull against the flap, and apply always a bolster to the middle of the flap.

flap, that it grow not hollow underneath ; that you may do it the better , make vent with a tent , thrusting it under the flap, that the matter do not run upward but downward, and the tent must not be so long as to reach from one end to the other, else the flap will be raised and stirred.

Do not search a Wound in a joynt with tents or the iron Instrument, for reasons above quoted : do not put the Tent-ointment to a flat tent to apply it to the Wound, and then to lay a plaister upon ; no , but let the Ointment run into the Wound to the bottom , and it must run every where in the Wound, and fill up the Wound with it, and the Brawn-ointment must sometimes be let run into it , it preventeth the running of the joynt water, cleanseth the Wound, furthereth the healing, and suffereth no symptoms to be incident: if the flap be so great and broad , that of its own accord it separates^{Flap separates.}, then make vent for it with a little tent, which must be very thin, that it stop not the matter, neither must it be too long, as to reach to both ends , which would increase the Wound, and loosen the flap.

Let the Wound have vent , that the Ointment may the better run to all the places of it , let the vent be in two or three places , it will close at the vent holes as if it had been stitched, and skinneth freely ; apply a stitch-plaister also for to keep the vent holes open : I have often used a Siringe, spouting the Ointment into blood-warm , and made the Siringe warm, that the Ointment should not cool too fast, and gently I spouted , else the wind of the Siringe raiseth the Wound, veins and fresh flesh , and cleansed it as neatly as possibly could be, to which end my Siringe was so fitted, that it drew the Ointment easily, and let it run gently, as if it had but dropped into. And as there are two or three vent-holes to put the Medicine thereby into the Wound, so there must be vent-holes also at the neather part of the Wound , for the matter to run out there. For where the matter must be squeezed out , there surely the healing is hindered. Therefore I have alwayes put a tent into the Wound, to day on this side, and to morrow on that side, and never filled up or stopped the Wound , so that the matter could come forth , and
needed

needed not to be forced out; and when the moisture or matter is come forth, then the Wound healeth the sooner, and where the Ointment can run into all the places of the Wound, there the sinew or joynt water is staid, and the Patient from further pains freed.

Manuals
in Joynt-
wounds.

Concerning other Manuals of such Wounds, they have been spoken of before for the most part, however it will not be amiss to rehearse some of them.

It is requisite, that Joynt-wounds be dressed once in eight hours, sometimes in six hours, which I like better, for the joynt water is sharp, and spoileth sound things, the which you ought to oppose, and aid the Wound against the sharpness of the joynt water, that things healed may not be made tender again by it: of this more shall be said, when I treat of the joynt water.

And when you are to dress the Wound, then have all necessary things in readiness, as I told you above, and let no air get into the Wound, and dress it speedily, and do not delay its healing; for if it be delayed, then lameness is caused, and the sinews shrink and grow stiffe. Apply a stiptick plaister to the Wound pretty well warmed, in the manner of an Opodeldoch, the plaister will work the better, and remember you apply also round about a defensive plaister, to keep the Wound warm: of the which more shall be spoken hereafter; the brown Ointment and other things ought not to be forgotten.

Have a care in Joynt-wounds you do not stop too hard, for the joynt water cannot be stopped with any tents or stitches. Therefore let the Ointment run into the Wound, which stayeth the joynt water, that is, the humidity of joynts and sinews, and every one hath a name for it: the *Germans* call it the Bands, for they bind and keep the Joynts together, & for the most part there are the tendons which pull & hold to it, which extend most behind the Joynt, and there are some which hold before also, these you must have a special care of; if a party be wounded either before or behind the Joynt, then stretch it out, perhaps the tendons is not hurt so much, it will be the better for the sinews and veins, which there

there must be kept open and extended, and in the healing the sinews also be help; it may be the hurt in the Joynt is such, which may help it self: if the Wound be either below or behind the Joynt, then lay it bent or bow'd, that the sinews may not shrink and be helped partly, and heal up that Wound in sixteen dayes, and neglect nothing, let the Wound not grow too full with flesh; for I have seen, that such flesh hath caused a shortness, and lamed the party: Such neglects happen in Burnt wounds, as I have seen it, and more shall be spoken of, when I treat of Burnt-wounds and Aductions.

And you look to, that the like do not befall you, which would prejudice both the Patient and you; and look well to his lying, and extend the wounded joynt every day but a little, and do not heal the Patient lame, if he be not lame, wounded: Let himself stir it too and fro by little and little; my self have mollified such lamed members, that were lame healed, and brought them to right. And when you see all difficulties past, which were present at the first, then begin more and more to bend and bow the joynt, but so, that you cause no pains in the joynt, and in case he feeleth any, then annoint him with *Unguentum Dialthææ*, let the wounded joynt hang, and not to be carried in a band, neither must he lift his foot up, nor set it down, as he used formerly, as long as you fear the joynt water, heat, swelling or pain in the joynt, then let him lift the joynt upward, according as the place is: This he must not do too long; but when he can endure it, then let him hang the joynt downward, that the blood and heat may come to the place again, otherwise Exiccations and Consumptions are caused, and the sinews drie up, if the joynt be kept too long bound upward, and in case at the hanging down of his leg or hand a swelling appeareth, let it not trouble you, for that will pass away and sink; but if that a swelling is in it, then is it a sign, that some untoward thing staid in the Wound, for in the Joynt must not remain any spissitude or grossness when it is almost healed, much less must any such fatness be healed up. My way was this, when a party was wounded, then I applied
round

round about the Wound a plaister, which I left there four or five dayes or more, and that was a hand breadth round the Wound; and if the parties either Knee or Elbow was wounded, I tied clothes about his Foot or hand, to keep off swellings (for these swellings are nothing else but a humour, unless it be an Imposthume or Dropsie, which are not humours but symptoms) and that no humours might come to the Wounds, nor to the uttermost parts of the wounded member, as the Hand or Foot. For I have seen humours fall into the Hand or Foot, which could never be gotten from thence; which mischief to prevent, I applied also a Plaister to the whole member, Arm, Hand, Finger, Toes. For a humour fallen into the uttermost part is hardly gotten out again after the Wound be healed, more hardly than it is gotten from within the Wound.

And that was my stitching-plaister which I applied thus, and it is better to take it off dry, then when it keeps moist, because it openeth the pores, if applied to the hand or member, and performeth its vertue as it ought to do; I applied my stitch-plaister for the most part to the whole part of the member, in places where I feared consumption, tenderness, exiccation, and in such members wherein a swelling was, to disperse the moisture, and where I could not well make use of my Salve against shrinkings. The member keeps very warm under that plaister, and counted it Gods blessing. For I shew you hereafter how I used it, and did much good with it. For it was my Fracture-plaister to all beaten, broken and swelled members.

When I name, my Plaister, then you must understand this Plaister, or mine unknown Plaister, that you may know also, what Plaister it was I used to such Wounds and hurts. The swelling and pain being gone, and the member able to endure the anointing, then with all speed anoint it with Dialthæa, I alwayes carefully used my Ointment against shrinking, which I wil shew when I speak of shrinking. For though no shrinking appeared, yet I still feared, and prevented it with the Ointment before any exiccation came, and whilst the member was yet swelled. I did use no cooling Ointments,

ments, but warming ones. I had made a Populeon, which I kept twenty five years, not that I contemned the Ointment, but I never used it; I alwayes used *Unguentum Dialthææ* to wounded Members: understand me well, I do not write now of imposthumes, sores and other inflamed hurts, but of all manner of heats in Wounds; for I alwayes supposed, that such heats do not come from the heat of the Member, but from an accident, which ought to be prevented, then the heat goeth soon out of the Member wounded.

For I have often seen, that when they thought to resist the heat outward, as with Goats milk, in which is boyled Vinegar, Lethargyre, Salt and Water, some took also Sallade oyl and Lie, some took Nightshade and Housleek, and others what they pleased: I am not against it, but I never used it; for I supposed still, things outward may not hurt the Wounds: your care must be onely, first to bring the Wound to right, then other means may be used for the rest: and I thought still also, it may be the Member hath bled too much, and wanteth warmth, and if there be any heat, it comes from the pain of sinews and other accidents. For that reason I used no warming things, for I thought, if I use warm things then the blood is gone, and warming things will bring other blood into, which causeth runnings, and usually Imposthumes, which I know experimently, and these Imposthumations have done much hurt to the Members, and caused great pains, which terrified me so much, that I would never use any warming things, as usually Cataplasmes are used, of Lin seed, Fenugreek, Walwort, &c. and applied warm, and dipping of Bolsters in warm Wine, and Balsam oyl poured into the Wound. I must confess I used such things also three years together, but I gave them over, and took my other things in hand, and used neither hot nor cold, onely made use of *Dialthæa*, and used it onely luke-warm.

There were many times found about the Wound Blisters and Wharts, which were caused by the hot dressings, and sometimes the salt Flegm of the Patient hath been the cause of it: in such a case I took onely my *Unguentum*, which I

Blisters &
Wharts a-
bout
Wounds;

will describe, moistning it with a little Vinegar, which soon healed it.

Proud flesh And when any proud flesh appeared, and one place grew sooner and higher, then I used burnt Allom, let it be there, till it fell off of its own accord, and if need, I used it once more, if not, I let it alone.

To comprehend all in one, about Joynt-wounds, consider these things: *Viz.* Fill the Joynt-wound with *Unguentum*, dress and bind it well, let no air come into, bind it nimbly, neither too hot, nor too cold, nor too hard, keep it quiet, seek and search not in it, keep it pretty well open, thrust nothing between, onely one vent above for a passage of the Ointment, and another below, let not the Patient drink much Wine, prepare and make all things ready before you undress it, and let not the Member hang down. Neither take out any shattered piece, unless it be quite loose; and in case a bone be cut thorough in a Joynt-wound, and yet it sticketh to the sinew, it must not be cut or digged out, as some use to do, but rather set it into its right place, let the work be done by the Lords blessing and the Medicine.

Therefore pull out nothing, unless there be great cause for it, for these will not be obstructive unto the healing, nor cause pains: consider the things well at first, feel not in the Wound like a blind man, especially if you go about to cut or loosen any thing in the Wound, and stay for the occasion some dayes, as long as nothing is yet neglected, and though healing goeth on the more slowly, yet is it the more convenient and safer.

Example. I was called once to a Patient, whose knee-pan was cloven, whom another Surgeon undertook to cure, and would needs shew his skill on him, he loosened the knee-pan, thinking he had done well. But what happened after the pan was taken out? The pan fell asunder, and looked most ugly, for he could look into it afore well enough, and gaped so farre asunder, that two fingers could be put in, not touching either side. This Knee put me and that Shaver to great troubles before we could fill up the place with flesh, for the Joynt-water gushed in so fast, that all Medicines were thrust-

ed out thereby; at last it was stayed by the brown Ointment, and a good Opodeldoch, the place was filled out with flesh, and the Patient by Gods help cured. But he was halting on that leg; and I am confident, if the knee-pan had not been taken out, he would have been more perfectly cured without any defect.

I will quote another example: In my travels, which I undertook for to get knowledge, I came to a Surgeon, who was famous and expert man, who undertook to cure one, in whose Hand a bone was dislocated, and seemed to be quite loose, and the Surgeon, held it to be so, and went to take it out, but it stuck so fast yet to the sinew, that it came not so easily off as he first supposed, and so he thought to loosen it quite; but the Surgeon lost almost all his credit by it, because he could do so little good upon him: For when he cut off the sinew, he caused such lamentable pains to the Patient, that he was not able to have it handled any more, and so the Surgeon was fain to let the bone alone, and dressed the Wound, and cured it; but that bone was not healed to the first place of it, for after healing it was moveable, however it was no hinderance to his hand. That Surgeon afterward told often, that he could not have gotten out that bone without cutting of the sinew, which would have caused a lameness to the Hand, which in this way was avoided. By these examples you may see, how perillous it is to take any small bones out of a Wound that are not quite loose.

Another
Example.

Note by these Joynt-wounds; a Joynt being in the said manner wounded, then the Joynts stand loose and weak together, especially if the Wounds be deep; then such Wounds must be helped with underproppings and bolsters, and the place be eased of the weight, chiefly if on the Hand or Arm. But how that dressing is done, shall be shewed in the Chapter of Bone-fractures.

Note further, if a Joynt-wound stinketh after eight or nine dayes, then have a care that no inflammation come into: For if any blackness comes to the Wound, and the Wound is soft, then is it a good sign, for then the inflammation is going away, and the Wound inclineth unto healing But

Signs of a
Wound that
falls to a
stinking.

if that blackness in the Wound clingeth hard , and will not separate and part from the redness , then is it a certain sign, that an inflammation is at hand , which must be opposed in that manner , as you shall hear of in its due place . And in case the patient complaineth also in the uttermost part of that Member, then no other remedy is left, but that Member must be cut off, or else the party must die. But in case it do separate , and will not stick to the stinking veins and sinews, then pull it forth, as much as the Patient is able to endure it, and cut off as much as you can come by, for the Wound doth hardly cleanse, when the Sinews will not separate but stay in it, which must come out, if so be the Wound shall be healed. But that which is good yet must by no means be pulled out and cut off ; for the less you take away from the black gray veins, the better it is, for if you take out much it causeth lameness. For these hamstrings tendons keep the Joynts together, and give them their power. For when these are wanting , then all hopes are gone , and the Patient cannot be brought to right, and is like a chain of Beads without a string. To that end good heed must be taken, that a Wound breathe strongly, by reason of the veins and sinews, which are still cleansing themselves.

For no Wound can be dressed so soon , but the flesh and veins will change and separate ; however I did read , and heard it also , that some Wounds were healed , which never had any matter in them : I confess I never saw it , and will not gain-say it , but leave them to their opinion. For I am but a common Barber-Surgeon, not learned and much experienced, neither am I he that hath seen all things ; yet I have cured a stab without bearing any matter , and that stab was but narrow. I have cut Hare-lips and Canker-wounds, which bred very little of corruption , and separated in the least degree , and made a shew of purging , like other Wounds , but not so much ; this happened by reason of the flesh kept warm together in the stitching , and received not yet any alteration or air. For in case a Wound , Stab , or other hurt receiveth air , then they alwayes bear and breed matter , and when it thrusteth off and separateth unto corruption,

ruption, then must it first putrifie, (for flesh that is fresh doth not putrifie) then a stink is caused, which must be remedied with the brown Ointment, then that stink will cease in two or three dayes, and you need not to fear the Prunella or inflammation.

Note further, in case the Marrow be wounded, then usually a Consumption or Exiccation is caused after the healing, which commonly is incident to all Joynt-wounds. When the Marrow is hurt. I mention to this end, that you should prevent these symptoms, and not tarry their coming: but how you ought to handle such things, shall be shewed in the Chapter of shrinkings and Consumptions.

What hitherto hath been spoken of Wounds in Joynts and Members, the same must be meant also of Wounds and Stabs made upon the great Muscles, for all manner of such symptoms are incident, *viz.* Prunella or Inflammation, as you heard of by the Joynt-members, which Wounds you must not stitch neither with the needle, but onely let the Ointment run into, and apply the Wound-plaister to it, as I told you before. Wounded Muscles.

Touching other common Wounds, where the flesh onely is wounded, and none of the sinews, muscles and bones, any Surgeon may easily heal them, if he hath but ordinary skill, And I hold it needless to write much of them, not intending to shew the curing of slight Wounds.

But if an Arm or Bone be thus, that all the bones thereof are shattered, and the Member hangeth onely by the flesh, then their condition is this. In case that part which hangeth down is senseless, caused either by too much bleeding or too much cold, then the safest way is to cut it off. When bones, veins and sinews are asunder. But in case there is some life in it yet, then set the down hanging part to its right place, and dress that Wound like as the Fracture of a leg is dressed, which is gone through the flesh. But mighty great care is to be had, to keep the Patient as quiet as may be, and to dress the Wound several times with the brown Ointment.

Let me tell you also, how you must deal with wounded fingers: Though Fingers are but small parts, yet they must be Of wounded Fingers.
cared

cared for whilst they are whole, and these being wounded require as great cares in the dressing as bigger Members do, and that by reason of the many symptoms which easily befall them.

To dress
Fingers.

Note, a wounded Finger must not be bound hard, which soon are killed through hard binding, bind them somewhat slack, and begin at the nail first toward the Hand; for if you begin behind toward the Fingers end, then you drive the blood forward, which killeth the Finger, and an Inflammation is caused. This manner of dressing belongs also to the rest Members, except the Legs, which require another manner of binding.

Fingers
ought not
to be stitched.

You ought not to stitch any wounded Finger, though it hangeth but by a little, but underlay it with splinters or little boards to make it lie even and quiet, which is done easily. In this manner the Finger healeth the sooner, and is not subject to so many symptoms, as when they were stitched.

To use no
Tents to
Finger and
Hand-
wounds.

Neither ought ye to use any Tents to wounded Fingers, nor to any wounded Hand, because of the many white veins that lie in the Hand, and meet there, and usually lamenesses are caused if Tents used, which are prevented if Tents omitted. But this rule is little regarded by these, which think themselves wise men, and hear the grafs grow (as they say.)

Neither must you let the wounded Fingers suffer cold, but keep them in a convenient warmth. There is no Member which can less endure cold than the Finger, and no where more hurt and lameness expected, and the running of the joynt water, than there. And the cold fire is easily incident here, which is obstructive unto health. Dress it not hard nor strongly, because the hard binding causeth inflammation: for if the blood dieth, then that Member must die also, especially if the Hand or Finger be angry, or when too many cold things are used. For many times there is a grim anger in the Hand or Finger, by reason of the veins and sinews, which is caused sometimes by a cold humour fallen into, and riseth as if there were great heat in it, and that heat apparent there, comes from the pain, and not from the heat, as

I shall

I shall distinguish between them, when I come to speak of the hot and cold fire.

If a finger grow lame, then is it better and fitter to heal it crooked than straight, the reason is known. In other things drest a wounded Finger as other Joynt-wounds are drest, bow it not much, nor let it be much stirred till it be almost healed: and for the keeping off of the joynt water, use often the brown Ointment, let it run into the Wound: it is good to use here a defensive Plaister.

Bathings are good for wounded Fingers also, made of Lie of Pine wood ashes and some Walwort boyled in it.

Let no Finger fall into the Hand, be it which it will, but rather keep it out, for though a benumbed Finger be a mighty hinderance, yet a Finger healed crookedly into the Hand is most hurtful, it were better to be without that Finger, as to have it healed crooked into the Hand. And if a Finger be straight healed, it hindereth the patient also in his work; a middle way must be used here, that the wounded Finger be healed neither too straight nor too crooked, in case its benumbing cannot be avoided. As it happeneth many times, that a Member will be lame do what ye can, then in time the fittest course must be taken for it, and not to delay it, whereby great pains to the Patient may be caused. Briefly, a wounded Finger must not be drest extended and out-stretched, nor let fall so much into the Hand; and if more than one Finger is wounded, whilst you are healing one, do not stir the other much, unless you know them fast enough, for these cannot brook so much of Medicines as other great Members; and make use of the brown Ointment to the wounded Finger, it cleanseth very much.

It happeneth sometimes also, that at the end of the Finger there groweth a great Callus: have a care that not too much flesh grow there, it will shew ugly. And be careful in the dressing, for if you bind it too slack, then flesh groweth high there, therefore bind it well together with the roulers, but take heed also that you do not bind it too hard, as to pain and to make his Finger swell, and the bloud be choaked and quite killed, as I have seen sometimes fall out so, and make no knots.

To heale
lame Fin-
gers crook-
ed.

knots when you tie the Finger, for they cut in deep, and hinder the course of the bloud, and pinch more strongly, than it may be beleived. I stitched the band with a needle and threed, and used the bands in the best manner, and tied it close enough to prevent the growing of any Callus in the Wound, and the Finger grow to an ill shape: the like must be prevented in other Members, where some excrescencies may fall, when you suffer the flesh to grow too much. For a Joynt wound cannot be healed, but some flesh must be suffered to grow; and a Joynt hath but little flesh, and when there more flesh groweth than there was before, than it stands out, especially on the foremost parts of the Finger, there usually such knots are, and there the little bones also go out, because they have less help of the sinews than other Members.

And if any be wounded through the nail, this also causeth an unshaped Finger, therefore on that place suffer but little flesh to grow, as little as may be, for then the nail will stand out high, and the Finger will shew ugly, do not stitch any Joynt of a Finger, it would cause pains and a lameness, besides the excrescence. It is best and safest that a wounded finger be not stitched, unless need require it, if so, then do but one stitch to it, if the condition of the Wound requireth no other.

**The Thumb
sinews in
pieces.**

If any be wounded behind the Thumb, so that the great sinew be in two, for there goeth a strong sinew down from the Shoulder, divideth it self about the Elbow, from thence it scattereth into the Hand, and through them is maintained the whole Hand with the Fingers, in their motion. This wounded and thorough cut sinew you must fetch about and bring to light with an Instrument (if you can) and stitch it strongly together, but the Wound must not be stitched, and so this sinew will heal together again, and preserve the Patient from lameness.

**Arm-
wound a-
bout the
Elbow. §1**

If one be wounded in his Arm, before or behind the Elbow, then look well to the great sinew; and if one be cut so, that he lets sink his Hand, then is the Thumb sinew cut, which you may stitch short, that his hand may not continue thus

thus hanging, but be healed as quickly as possible it may be, therefore bind the Hand upward; let it not hang so.

For I have seen a Barber, that was cut in that manner and healed, but his Hand continued hanging, which another expert Surgeon undid, and cut a Wound near the place, and pressed the great sinew together, even as an Eagles claw which Children carry about, and draw it to and fro.

Another also was cut lame, and cured lame, but another undid it again, and healed him straight.

Another was cured lame of a Wound cut in his Knee, that Wound was opened again, and cured better afterward.

One of these Cures I have seen, but the rest were by men of credit done, and I understand the cause may be thus, If any ones skin, flesh, veins, sinews and all be wounded, and stitched together, they let him lie still in a posture, and so heal him lame, though he received not a Wound unto lameness, which I found so, and speak it by experience, that a Patient in that kind may be neglected; that is that cured, therefore suffer not alwayes a Patient to be cured, who lieth still, and never stirreth, never stretcheth his Leg, nor boweth it, or the like; for healing stiffeneth the nerves, arteries, flesh, pannicle, and stiffeneth them together; and those being thus stiffened and grown together, then the one suffereth not the other to perform its work perfectly, in the pulling up, and the stretching out, as they ought to do of their own accord. Therefore I give you fair warning, not to cure any in such a quiet posture, but stir him still, then you shall see, and the Patient will feel, that the Member of the body begins to be used too, and fits of itself, and so that which is not quite lame may be preserved, and that which is disordered they must leave as it is; you must not do too many stitches in the great sinews, for you stretch it through, which was not cut through, and make more holes into than you need, and you will cause a lameness, which would not have been, if it had not been for your stitching; for these stitches are not made for plainness sake, but to help and keep that together which was not hurt, and to keep the further part from hanging.

The thumbs
use.

And this happeneth to no Member so soon as to the Thumb, and so no Member ought to be puld and bound more upwards than the Thumb; for if the Thumb falls or sinks into the Parties Hand, it is not onely for no use, but is hurtful also; for what keeps stronger hold in the whole Hand but the Thumb? for when the other Fingers pull to, then the Thumb meets them. But if the Thumb lieth in the hand, then he not onely holdeth nothing, but lets go that also which is given and put into.

Therefore be careful, be the Wound cut, shot, or lamed any way, to set the Thumb out of the Hand, for it will fall soon enough into the Hand, more than it will be to the Patients liking, regard not the Patients complaint, if he saith, that he cannot bring his Thumb into the Hand, for in case he must be lame, yet the Thumb standing out of the Hand, is of better use, then if within.

Have alwayes a care to the Thumb, for the Thumb stands in better stead in the Hand than two other Fingers, and do not let it fall into the Hand, for after the healing it will fall into the Hand however. Briefly, keep the Thumb upwards in all your dressings.

This happeneth not onely to this great sinew, but also to other sinews and veins, if you can come by them to stitch them, as here by this great sinew, doubtless they will grow together and heal. But the Surgeon must still be provided with good Medicaments to prevent symptoms.

No Wound
to be stitched
on the
Hand.

If any ones hand be wounded, these Wounds ought not to be stitched nor tented, less than any other Wound, by reason of the many bones and sinews. This rule is slighted by a great many, and this is the reason, that when a party hath received a wound on the Hand, though the Wound was but slight, the fingers are not onely stiffe and defective, but sometimes the whole Hand groweth lame thereby, which such supposed Surgeons have caused with their stitches and Tents, truly the Magistrate should punish such fellows severely, which do spoil the people in this manner.

Whether
cold or a
hot dressing
be better?

Now I come to speak of cold and hot dressings, of which something hath been spoken already in the first part: here
are

are many abuses and faults committed, Touching this business, whether a Wound ought to be dressed cold or hot, in my mind, according to my experience, it is best to dress it milk-warm. Therefore care must be had, that the Ointments, Oyls and such like be used warm, which pleaseth and fixeth Wounds best, and to keep in these with bolsters and roulers, &c.

The general fault herein is, that many apply their Medicines as hot as ever they can, thinking they do very well, especially when they apply their Cataplasmes, made of marsh Mallows, Lin seed, Butter, Oyl, Milk, Meal, Rose cakes; with such things they think to do great wonders. Such Poultresses may do good, when swellings are to be ripened and softened.

Hot dressing is hurtful.

But to apply them to Wounds, will cause but mischiefs, because such hot things applied cause putrefaction, which in Wounds ought not to be. For such poultresses choke up on Wounds, which of necessity breeds corruption: and when these are taken off from the Wound, there comes a great fume from the Wound, very moist and wet, which is a sure fore-runner and sign of putrefaction, caused by that suffocation, which paineth the Wound exceedingly, and bringeth great hurt unto it. And if it be a Joynt-wound, there setteth usually a moisture about the Joynt, where like a Tartar it doth coagulate, thence is caused a lameness, because that matter groweth harder and harder, and taketh root there; and all this is meerly caused by choaking the Wound with such hot Cataplasmes.

Cause of putrefaction.
Sign of it.

Experience sheweth sufficiently, that when these pap-A stinking Cooks with their Poultresses have healed a Wound, where many veins and sinews lie, commonly a stinking Bird stayeth behind in the Nest (as I told you in the first part.) For how oftendoth it fall out, that a wounded man being healed, afterward is mightily pained and swelled, which such Surgeons are not able to help; for if such errors are not known of them whilst the Wound is open, what wonders should these Surgeons perform after the Wound is closed?

Pains and swellings in Wounds.

Cold dressing hurtful Touching cold dressings, they are not good but hurtful, and are to be avoided, because they cause cramps, great pains in veins and sinews: therefore at the dressing of Wounds a right warmth is used, conformable unto Nature, neither too hot nor too cold.

You say, some Wounds are hot, and some are cold, and, so they must be dealt withal accordingly, as necessity requireth.

Good Medicines do cool and warm.

I reply, that that heat or cold is not to be regarded, for if good and proper Medicaments are used, they cool the hot, and warm the cold parts by their own vertue and quality. Therefore if a Wound be hot, do not think to drive away that heat by a cold dressing; and so it is with a cold Wound, for proper Medicines must do the feat. For as a cold thing quencheth not a fire, but water and other liquid things doth it, be the water hot or cold, it is all one, its moistness will quench it; even so are good Medicines effected unto Wounds.

Therefore do not say, this is cold and this is hot in the Wound, but say, it is a symptom: Now as there is a variety of symptoms, so they require several Medicaments; and hot ones also, as oyl of Turpentine, Petroleum; there are some hot Wounds also which ask for coolers, according as occasion is, which must be observed carefully. And if there be any pains in the Wound, then things are not right, either the Patient hath done amiss, or the Medicine was not proper, or a symptom is coming on, then the Medicine must be altered accordingly, but no hot nor cold dressing is to be used.

CHAP. XV.

Of cloven Nailson Fingers, and of their cure.

Sometimes the Nails on Fingers are cloven either the long or the cross way, and are almost wholly loose. And when they hang yet a little fast at the uttermost part, you may cut it off, but it will be long before another cometh, for the flesh
about

about the Nail commonly groweth high , and hindereth the Nails growth ; if that hanging Nail be tied it is painful, yet it may not so neatly be healed as a new one would shew. According as the party is, whether a Tradesman, or one that is often abroad at feasts, such ought to be cured neatly, and such a cure may be performed within ten dayes: if the party looketh often on his Finger, he misliketh the double Nail, and it looketh double when splitted, unless it be well tied together : if a Nail be splitted the cross way, then at the Fingers end there will be a Callus. It is better if a Nail be splitted the long way. Be it which way it will, if it holds fast, do not cut it , because without causing pains it cannot be cut ; let it not gape farre asunder ; use constantly burnt Allom pulverised ; Nails usually raise and thrust the flesh upwards, and are of tedious healing. A Nail that begins to close again must be kept bound continually , as hard as the Patient is able to endure it, and still pare the old Nail away ; take heed you make it not bleed at the paring ; the old Nail will give way to the young one, even as an old Tooth giveth way to a young one. This is the fairest cure , if you can bring it so to pass, and causeth the least pains , and suffereth not the flesh to grow high. Learn to know well the new Nail, for at first it appeareth like a blew skin ; do not try whether it be a Nail or no, for if you touch it with any Iron, Finger, or Nail, it gets a scarr, and will not be toucht, neither will it look so fair, as when you lay a plaister to it, and tie it close together with linnen, then the Nail will be stiffe, close, smooth and even ; but if you touch it, it groweth rugged, which hardly can be rectified afterward ; therefore help, that the old Nail touch not the new one, it doth hinder else : the old Nail still giveth way from above , and groweth loose, cut it off, but do not pull it off ; for of its own accord it goeth off more and more , keeps down the flesh , that the young Nail may grow over it. If you should pull off the Nail, it would pain the party, and the flesh would grow high, and hinder the young Nails growing. Therefore take heed you do not cut the old Nail too fast, neither leave too much of the old Nail , it would prove a hinderance to the young Nails

Nails growing ; neither must the old Nail be cut too close, neither leave too much of it, so the new Nails coming will not be hindered ; the Finger at the end must be tied most strongly, and make the Finger sharp and pointed, because it will fall broad enough at last

Many times the Nail groweth rugged and unshaped, therefore lay a stiffe plaister to it, and a little well-wrought green Wax, it will keep the Nail from ruggedness: in case the Nail doth fester, then use my red unknown plaister, which I shall shew hereafter, let it lie there six dayes ; it keeps the Nail from ruggedness, and maketh it even and smooth : tie it stiffly, else the Nail stands high out.

But care must be had also, that the Fingers end be not killed with too hard binding ; tie it with a fine small tape, make no knots, but pin it ; in case the Nail be contused, then it looks blew, black, yellow, red and quite mortified, as when a Stone, Hammer, Wine-pipe, or any other heavy thing is fallen upon ; then make a hole with a Raiser on the Nail, some do it with a piece of glass, and get out the blood under it, make that hole not too little, but as wide as it may be, and lame it not at the cutting, apply to it the brown Ointment, it keepeth the Nail from festering, rotting and stinking : do not cut away all the Nail, it will loosen it self without danger : that Finger must not be tied hard, but slack ; and in case the Nail be so much loose that it will not stick or hang on, then cut it away. But take heed here, and be warned, if there be no necessity for the cutting off of it, then let it alone, as you were told also before about the cutting off of members : for I have seen, many times, such Fingers healed to the admiration.

It happeneth sometimes also, that a Finger is lamed with glass, iron, stick, or other wood splinters, somewhat of it remaining in the Finger : here you must have a care how to get it out again ; sometimes such a piece of glass, wood, &c. gets into the Joynt, which is a slippery part, and is shut up there, and cannot be gotten out at the first Wound where it entred, then Instruments and other means must be used to get it out, and take heed you do not break it : When you have

have gotten it out, then use the stiptick plaister, and if you doubt that somewhat remained behind, then use that plaister and apply it right to the place: do not feel and groap much in the Finger, least you make it angry; for feeling with the Iron into the Wound, and touching a small bone, then a mark you put on there which will not heal so easily: If it raiseth and is soft, then do not lance it presently, let it grow very ripe, then the iron, glass, wood, &c. that is in it will loosen, and the flesh falls off from it, and comes forth easily: For if you should open it presently, before the splinter be loose, then you would hinder its putrefaction and separation, for it will soon separate, and be loose at the festering, be it glass, or what it is, &c. from the sinews, ligaments, or flesh, for all what sticketh to it, at the festering it must part from it. Being parted, it healeth then easily, no Tent you ought to use, for it loosneth of its own accord. If you should take it out forcibly, then that part would be lamed. I do not say, that at the first you should let it fester, as soon as it comes to your hand: no, but when you think that some piece staid behind, then no need to seek in it, but apply onely the stiptick plaister; if there be nothing in it, then is it needless, but if there be any thing in it, it must be had out, though it should be made loose with a sharp or small Tent, which is better than lancing: I confesse, I made use sometimes of cutting out such splinters, but never searched in the hole with the Instrument. Therefore lay hold on the appearance of a splinter, nail, thorn, &c. that entered into a Joynt, be it the Ankle, Knee, Elbow, Hand, &c. for a splinter stayeth not in that place where it entered, unless the Patient never stirre, but as soon as he stirs then the splinter goeth further and slideth off. I have seen strange passages with such splinters, *viz.* they came forth a span from the hole they entered at, thus slippery are the Joynts if stirred.

I could write marvellous things that happened to me, *viz.* one splinter parted into three pieces, none of these came out with the other, and some weeks past between, before they came forth the one after the other: many such Patients I had.

Therefore

Therefore be not deceived, neither marvel at, that when a splinter, nail, thorn, is gone into a Joynt, you find it no more in that place. Stirring is good for such a party, that the splinter may appear and break out in another place, and that at an opposite place, either above or below it. In case a splinter stayeth long in the Joynt, it will make long work for the Surgeon, therefore such Joynts must be looked to speedily, and the thing that entered into be gotten out, for the bones in the Joynt are not so strong as they are in the Arm or Leg, but are covered with Arteries, which are weaker than bones: The further the bone is from the Joynt, the harder it is to be cut or broken; and hurts about the Joynt are more dangerous than those which are further off. Every Joynt hath its own ligaments, which hold the Joynt together, and if any thing stayeth in these ligaments, it putrifieth them, and that Joynt will not be so flexible as it was before, and sometimes a small putrefaction lameth it quite. And if you do not know what to do in such a case, and the hole, where the splinter went in, is no bigger than a pins head, yea, you hardly can discern, whether any thing entered or no, and you cannot feel with your finger any pricking thing, then let it alone, feel not into, unless by a sure sign you know that something is in it: in case you have no certain sign of it, then apply the unknown plaister a hand-breadth over it, and leave vent about a Dollers breadth at the hole, there apply the stiptick plaister, as if it were a thorough wounded bone-fracture, bind it not too hard, else you cause a swelling at the Joynt, and in case it is swelled, then make vent, keep it not too stiffe with binding, that you may see, whether it inclineth to swelling, and where it is thin, and where it casts up a bile and maketh a blew mark: be not too hasty here, at another time you may be surer, whether any thing be in it or no; if so, then lance it, and press it forth, and proceed as you think good.

Being that lancing is not alwayes good, I alwayes stayed for a fitter time, and had no mind to lancing, alwayes holding it better: that for four dayes some pains should be felt, rather than to cause greater pains for two dayes, and I am still
of

of that opinion. For if the splinter can neither be seen nor felt, what need then of groping? It cannot alwayes be hid, it will find its place one time or another. Some use to take Hares grease, and Bone-marrow, and apply it to the Wound: and others do it another way, every one thinks his own to be the best: but for my part I used the stickt Plaster, as you heard afore: if it comes forth, well and good, if not, I let it alone, using no Tents, let it have its own working to cast it out. Some use swelling Tents and Fomentations, others use Corrosives, others fall to lancing: let every one have his will, what I write, I write for Novices.

I have seen splinters, and took them forth, which had staid some years in the flesh, the parties not knowing how they came into it, feeling no pain, till at last when the splinter rose, and I thought it had been a loose bone, neither did the party know what it should be, but at the opening it proved a long splinter, which was as clear, as if lately broken off from the wood.

It happened, that one leaning on a Pin-cushion, a needle run into his Finger, and a piece of it brake off, his Daughter complained that her needle was broken, made him remember it, at the present he felt it not, neither regarded it; in sound flesh for a time it may not be felt, and cause no pain for the present: The thing that I would say here is this, that such Wounds should not be metled with, as long as they are not painful, and stay the time, when they cause pains.

And I have seen a splinter rising upwards in the flesh, as well as downward: Iron and Lead alwayes tendeth downwards, and heavy things, that sink in water, do the like in the Body, and light things, that swim on the water, the same climb upwards also in the Body, if there be a way for it.

The splinter which is gone into the Body, if green, it may be pulled out and laid hold on with a Skrue, or a skrued Bullet-tong, or Corn-tong, or with the Seeker; and if you are about any such thing, do it nimbly, else the wood swells in the flesh, groweth big, and you can no more get it out,

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where

where it softeneth and rotteth, and no Instrument can take hold of it, and the Joynt swells; therefore be quick and nimble.

CHAP. XVI.

Of Wounds in Hands and Fingers; and if any Bones be cut asunder, how it is to be cured.

IF you have a patient, whose Hand or Finger is wounded, and something is loose in it, and the ligaments are cut in pieces; here have a care, that the Joynt be not hurt or touched at your dressing. Some have Hands made of wood, and others have cases, in which they lay the wounded Members to rest, such things I approve and commend, I had none such; I used splinters, as it is the fashion about broken bones; which I fitted for the Arms, Hands, Fingers, according as I had occasion; these splinters were like such, as I used to Bone-fractures. For I shall shew you, how I fashioned these splinters, in the form of a Member or Joynt, and fitted them so, that they hurt or toucht no where, and lay on close, and they fitted very well, and looked handsome; and were either of a sleeve fashion, or of a finger case, taking just measure; having prepared them well, then first I applied the red unknown Plaister about the Wound, so that it inclosed round the Joynt, and made it lie smooth, for if the Plaister runs together, you will hardly get it asunder; therefore keep them asunder a straws breadth, and not let them close, nor come one over another, else the skins or splinters could hardly be changed without great moiling; and when they are at this distance, they are the easier taken off from the skin, & the Joynt must not be stirred nor pulled much, when the Plaister comes off uneasily. Therefore be warned, you do not let the Plaister come together, be it on the Fingers joynt or elsewhere, you may lay a double Plaister of course cloth to the Joynt, then the Plaisters stick close like an armour,

mour, and the Joynt is under it moveable. The Plaisters
 being doubled, let them be at a further distance, else you will
 hardly get them off from the body; and when I intended
 to let a Plaister lie long, and not to take it off in haste, then
 I spread some of the said Salve or Ointment on the splinters,
 then they held strongly, and I tied two laths about it or more,
 as I saw need for it; and when I laid any such bands to it,
 I took heed, that I touch not the Plaister. The use will
 teach you more, how these laths and splinters must be laid,
 they must not cover the Wound, but it must be as in a bone-
 fracture it is used: Above the bolster and band you lay them
 to the Wound, at last lay on lath, and so bind it to, as you
 think fit. And doing thus, be it the Finger, Hand, Arm, Leg,
 then you may look to it twice or oftner in a day, that the
 Joynt doth not move, and is at better rest, then if it were
 every day stirred and taken out of the case, or lifted; you
 need not fear any Imposthumations to fall into the Wound.
 In case such laths and splinters are not used, because no Joint
 or bone was in pieces, nevertheless I applied the red un-
 known Plaister, by reason of Imposthumes and Swellings of
 the Joynt, alwayes leaving vent for the Wound, as there was
 need of. When you lay clothes over the Plaister, then first
 lay a bolster upon the Plaister, then the other clothes will
 not stick to the Plaister, thus the easier you may open and
 bind it. I let this Plaister lie sometimes ten dayes long, in
 case it was not washed much. On a Fracture I let it lie
 somewhat longer; and on the Knee it must lie longer, as I
 shall shew it in Fractures of bones and Knees: when you
 place the Patient into the plaister and bands, you may lift
 him immoveably as you please.

CHAP. XVII.

Of Cracks in Members, caused by great and heavy liftings, or when men work so strongly, that their Hands crack as if broken.

Surgeons many times undertake a cure, which is of no great weight or consequence; sometimes the Hand is swelled, and sometimes it is not, but the great sinews of the Arm is crackt, and the party is not able to lift any thing; and it paineth him when he worketh; he aileth nothing, but that his sinews are crackt. If you dress him with the red Plaister, as a Fracture is dressed, then the crackt sinews joyn again, even as a Fracture in a bone doth; but if you onely annoint, and nor bind him, he will not be cured in haste; such like Patients I had many. But you need not dress him with many laths or such like, one lath or splinter will serve the turn here. And apply that lath either above or below the great sinew on the Arm, another within the Arm, and better is it, to apply one above than below the sinew, and so tie it stiffely, then the great sinew joyneth, and the sinew water is consumed without any danger.

If a party was beaten, or had a fall, without a Wound or Fracture, I dressed him in this manner, as you heard of the crackt Joynts, when the congealed blood could not gather nor putrifie, and the blew and yellow colour was gone: I annointed them sometimes with Dialthiza, that it should be the more supple, and used no laths or splinters, but onely dressed the Hand with the red Plaister, and needed no further toil; some I dressed but once, sometwice, and at the most three times.

CHAP. XVIII.

Of Knees that are full of pains, and how they are cured.

I Will write now of Knees that are much pained, & do look like other sound Knees, yet are full of pains continually, without ceasing day and night, and grow untoward and unshaped: Of these there are several sorts, some are with a fall, blow, thrust, casts, and other wayes thus lamed; others were sound at day time, and at night they fell lame, swelled and greatly pained in their Knees: Of these I should write severally; of such Patients I had enough, had great care and toil with them. I have lanced more than a hundred of such Knees, besides those I had cured otherwise, and not opened them: I call my Journymen and Apprentices to witness, which dwelt a long time with me, that I still was troubled to cure such Knees, two or three Patients in one day, whose Knees were so full of matter, that it was to be wondered at. And God hath given a great blessing unto such cures, whose Name be praised for ever.

If any one was lamed in his Knee, either by a throw, fall, blow, &c. and it was swelled, which swelling was not long there, but even newly come on, these I cured so; first I applied my red Plaister in a great and broad way, onely leaving free the tendons or hamstrings, and bound it well with rollers, to keep off swellings, and the Sinew water from gathering, and from festering. I did not undress the party in four or five dayes, neither did I much annoint the party, onely kept the Joynt free from simptoms; thus all ill humours were exsiccat.

Thus simply I dress the Knees, which order I do keep even to this present time, neither did I hitherto here of any better way. Sure I am, I have dress above a hundred such Knees; at the taking off of the one plaister I applied another, not troubling the Patients with any other things, and so cured them.

The same proecess I used to Elbows, Shoulders, Hands,
Ankles,

Ankles, Fingers. Briefly, all parts wounded and hurt by a fall, blow, throw, thrust, &c. Fractures and Wounds, never altered the cure.

Further, if any had ugly Knees, full of hardness and pains, I proceeded in the same manner with them, and with coagulated Sinews and other stiffe parts; I never could hear of any better thing these seven and thirty yeares, and as long as I followed this Profession; and if I should continue it as long again, I do not beleive that ever I should change it: and as many Knees as I have lanced, I still applied that same Plaister, healing it toward the Body up, and down to the Leg, and bound it well above and below the Knee with a broad roller: somewhat I left open about the Wound, like an open Fracture, which I undrest and drest again, as necessity required a lanced Wound should be drest: I let lie the applied Plaisters, as they use to do on a Rupture, and drest them twice a day, even as I thought good, and the Joynt could not rise, by reason of the applied Plaister, because the Plaister would not suffer any thing to press or thrust upward, and the hollowness and swelling never rose higher. I had also many Knees in cure, which were very hard, and would not be stirred, having a lameness, biles and other symptoms, and Joynt-sponges grew therein, and exiccations of the Joynts.

All these I drest with the said Plaister, tied them strongly, and prest the hardness downward below the Knee, driving it down to the Leg, then the Knee began to lessen, onely the Shin and Foot swelled, for the which I applied warme clothes, and sometimes I perfumed these warm clothes with Frankincense, then the Legs swelling was gone also, and that internal moisture was exiccated without any danger. These parties were so cured, that they needed not any other Medicines.

Moreover, some Knees came to my cure, full of lameness, biles and joynt-sponges, such I cured in the following manner.

When the Knee was hard and ugly, then I bound it strongly all the Joynt over, and mollified it, and was careful

to see where the joyntwater would appear; and having found it in a ripeness, being gathered under the band, and there also, where it appeared first, and there also, where it never was, then I took care, where it might be best to open it, and took hold on the matter, where I was sure it was, which I let run out as clear as water, not mingled with matter or blood, and that water looked as clear as Well water. In case I could not come so nigh as to get the water out at one cut, lying yet under the knee-pan, then I cut onely through the skin, making a little hole, putting in a Wick rould in Allom or other Corrosive, and still eat a deeper and broader Wound with Corrosives, till I came to the water: For it is sure enough, if you hit and meet with the water, it gusheth forth, as the blood doth out of a breathed vein. It often happened to me, that I was faine to set the basin farther off, when it gushed forth in this manner: one time it gushed into my Mans face, scarce able to hold the basin, so fiercely came it running. Having let out this water, then I drest him with a Tent and Ointment, every day thrice, like an open Fracture: Once I lanced a young Mans Knee, the water gushed out so vehemently, that none of it run down his Legs, till at the end, when they were empty. I know not one but he was healed; if any water was found therein: and I had good success also upon those which I drest with bands and roulers; and when I was about the lancing of any Knee, I did it so, that the Patient was no where endangered thereby. I never opened any with a Knife or other instruments, but onely with that Lanter I used to phlebotomize withal, making no great incision, onely of such a bigness that I might get in a Tent. Further I did so, I dropped one drop of Ointment on the place where I meant to cut, and was sure, that in that hollownes the water did lie; and having thus marked it with a drop, then I took a long rouser and bound the place beneath it, and then I struck upward above the marked place; then I laid another band, tied it strongly, so that the skin rose on high, and made it insensible with the stiffe and hard binding, and raised it so high, that I knew I could not hurt him, and to come onely to the hollownes with the iron, and

and it hurt the Patient not so much, as it would if the place had not been tied, neither could it slide away under the Lancer, it must stand to it, and it could not but be hit and surely found.

Now is it time here to consider, what sores *I* mean to be opened on the Knees and Elbows.

Note, *I* mean not such Knees or other Members, which are full of matter, or other swellings filled up with scirrosities, but onely such that are full of water, and are soft, and by that water are brought to a lameness; of such *I* had a great many; neither are they marked with any weakness or defect, onely they complain of it, when they go, or stand still, and at mornings near the breaking of the day they are most pained, neither do they feel any great pain when touched, onely there they are pained where the water lieth, and is swelled a little, no other sign to be seen. It is hardly believed, how it gusheth out at the cutting; but if tied it spineth out, as when a vein is breasted, but no blood cometh with it.

Many such Knees would not yeild to any softness under the Plaster, though they were much annointed, and troubled with Cataplasms of *Althea*, *Malva*, Grease, &c. hot Wines, Oyls, Sweatings, Fomentations, Coolings and chiefly Water-baths, all which were hurtful, and rather caused the growing of a Joynt-sponge. When they were so hard, and shapless, and unmoveable (for the abovesaid Medicines make them stiffe, tough, hanging and clinging:) then *I* was forced to do what *I* was loath to do; and seeing that the thing must be opened, namely, the top and the highest part of the bile, and put some Corrosive into the Wound, and made it angry every day more and more, till the hardness was consumed, and then *I* drest him, as any other Wound of the Knee ought to be dressed; after it was somewhat healed, *I* applied the red Plaster also, and so excicated the rest, as *I* usually did to Knees not lanced: *I* often bowed, out-stretched and moved them, sitting them for motion, for the flesh sticketh so close to the healing, that it will hardly admit any stirring, therefore by force they must be stretched, bowed and bound,

as hereafter shall be spoken of at crooked joynts. Note also, that a Mercurial Ointment is good for lameness and pocky biles, if his foot be annointed with it, or it is better, if laid into it, for the Pox and lame blains come sometimes onely into the Knee, though no where else, but men are loath to hear, that these are caused by that *Morbui*.

There are other strange hurts on the Knees, more than to the whole Body may come, and differ so much, that no body can tell what they are, and I beleive there is no man, who knoweth them all.

There are also some humours of the Body, which stink, and fall down upon the Knees, of which many perish and die, and I say not that these may be cured; for besides the misery, pains, stink, putrefaction of the bones and sinews, there grow Worms therein, which fall from theace, and to speak truly, these ought to be cut off, and the Patient be ready for death.

And my counsel is to you Novices in Surgery, not to undertake alone to cure Knees, unless you know first, what accident there is in it, whether it come by a hurt, or whether it accrue to it, for an accrued hurt is worse than one that is made; and an accrued symptom hath a root, which if it be stirred and roused, a dangerous excrescence may be caused, and the root not known. But things proceeding from the Pox, which are running, are bad enough to be cured, especially when they break forth of their own accord; for then they are worse than when they are opened; for when corruptions seek to come forth, they search then many places betwixt the veins and sinews, and stay there, and have many passages and wayes; and when a Surgeon thinks he is almost at his journeys end, then is he onely at the beginning, and can hardly come near it, and falls out many times, that the true ground can never be had, and then bodily humours come also, which come from ill Lungs, and fall down from the *Diaphragme*.

Moreover take care, and understand me right; that you will have perhaps cause in sore Knees to make use of a lenitive, by reason of the swelling and the water which is in it,

which ought not to be used. Use no mollifying things made of Althaea, Mallows, Honey, Meal, Lin seed, Butter, Grease, and such like, &c. for I do not advise, that any softening things should be applied to Knees, but to let Nature have her course; and if Nature be too weak to expel, then aid her with a Lancet, make a hole, which is to be made wider with a Corrosive, or burnt Allom, which is enough, I used no more. Here I speak of hard and not of soft Knees, for when they are soft, then they soon ripen unto matter or water.

CHAP. XIX.

Of the little Ulcer that groweth on the Knee.

IT falls out sometimes, that one gets an Ulcer or Sore before on the Knee-pan, and paineth much, and appeareth with a swelling and heat, and sometimes there is also a cold in it, it gripeth the party extremely, it shooteth and rageth like a Plague bile, and it groweth red and hot, at first it looketh ghastly, but the danger is not great; let it have time unto maturity, it will get a little Blister with a black head, like unto a small Pox. At its breaking there comes forth a little water, there standeth a green husk, which cannot be prest out before it cometh to a ripeness, and being grown ripe, then it openeth like a sore, and is healed again without any tent or mollifying, is curable like any other sore, and is called the good Pox, it is full of pains, and easily cured.

C H A P. XX.

*Of an Inflammation, or St. Antonies Fire on the Knee.
Erisipelas.*

Those Knees that raise and swell, and have many red pimples here and there, they raise, but swell not, and is called the Rose. These ought not at all to be annointed, much less must any greasiness or moisture come to it, onely dry warm clothes must be applied unto, which dry up all their damp. Some do foment those, and I used such means also, and me thinks it doth very well. This Rose or *Antonies Fire* must be so dealt withal, and that swelling or raising goeth away without any peril, if onely kept warm with dry clothes. These Knees must be tied pretty stiffely, that the Knee-pan do not raise too much. It is good to bind a Knee hard, as much as the Patient is able to bear, be it in any infirmity whatsoever, except when there are gray blains or blisters at hand, these ought not to be bound, that the sooner and better they may come to their ripeness, for they grow and swell till they be ripe.

In case you were to use any tents to the Knees, by reason of the hollownes and bigness of the hurt or sore, that in the inside it be too wide and too great, then the Tents must not be of that bigness as to fill out the hole, else the matter will be deeper undermining, before you dress it again, by reason of the abundance of it: but at that hole, where the tent is put in, the matter and water must run out.

CHAP. XXI.

Of some humours of the Body, which sink down into the Knees and Legs; what these are, and how they must be cured.

THe hurts and symptoms of the Knees are several; among the rest there is a malignant humor, running down from the Body, making a passage through the Thigh to the hollow Knee by the sinews, which humour stinketh, and is like to matter, and white like Whey, there it stayeth, and admits of no cure, it is one of the worst humours, and I never heard, that any was cured of it, either by fomenting, woods, lancing, cooking, or by other manuals, nor by potions, or corrosives, but it kept its course, which it hath from the Body downward, and the passage it made is hardly found out. Therefore I advise you, not to attempt much upon it, but only keep these Knees clean, that they may stink the less.

There are other sharp humours also, of the nature of a salt rheum, which fall down from the Body upon veins and sinews, and these also have their revelets and passages. These corrode and gnaw the bones into a black colour, and cause more pains than the former, and are very hardly cured, yet through good counsel and good diet they may, and must be held to the Wood cure; and if they are cured, it is done with inconvenience, by cutting or taking out of bones; if these rheums are taken off, and their condition changed through a good diet, then these sharp rheumes are consumed and gone, and may the easier and better be healed than the other above named.

There are other rheums also in the Body, which fall on the bones above like great Imposthumes and swellings, where they putrifie, and sink till they come to the Knee, which proveth nought, some of these rheums have their supply from the Body, but these are neither stinking nor corroding, as the other two sorts named above are, and these run most round about

about the bones, before they come to any maturity, and fill the Legs with matter, and are easily cured, if come to a full ripeness, and when they have mollified the flesh and skin, then must they be opened, and a cleanser put in, and let the rheum run out, let it not rest one quarter of an hour in its running, and let the party have a constant dressing, applying Tents and Plaisters, lest the hollownes be not much covered with flesh, that the Muscles and the skin together with the panicles may close the better, for these do willingly close, for that reason they must not be filled up with flesh, and must be tied stiffly, taen the hollownes healeth together; therefore fit your Wicks so, that the moisture may run out by it, and gather not at the one place or sinew to the other; for I held it not good, when I pulled out a Tent, that the matter followed close, if the matter is run out before the Tent is pulled out, then is it more wholesome when no matter followeth after the Tent. The Patient must not alwayes lie still, but must turn himself this and that way, that the matter settle not any where. The Tent that is to be put in must be covered with *Egyptiacum*, or with a Wound-ointment, as you see cause for it. You may siringe him a little, and that gently: Use no Glisters, they cause windiness, which bringeth danger. But siringing is good, and the Balsam and Ointment cometh the better into: and the symptom being inwardly well cleansed, and the swelling allayed, then dress the opened hole with the Ointment and Plaister, then you will know, whether any matter is settled, it raises then like dough: you need not to put the Patient to any pain, nor to make any hole, for it will run out freely when you dress him with the rouser, and apply the red Plaister over that dough or softened place, and if it thrusts against, as the matter usually doth, and you are sure of the matter, then you may lance it, which will be good, thereby the matter will take its course, and let the first little Wound be healed up as fast as you can, and bind it strongly. And the neathermost hole must have vent, and be kept open, till to the last of the healing. Let the Knee not lie still and rest, but stretch and bow it as much as you can, that it grow not lame. For if you stay till all be healed, then will it be too late

late for the Knee to be stirred. Therefore do it betimes what you ought to do, that the Knee be not healed stiffe. For if you stay too long, and neither bow nor out-stretch the Knee, then you will hardly help it afterward, and it will be a great difficulty to bring it to right. For if you deal rightly, and heal it well in the joyning of it, then the party will be of a sound and strong body, for all the dangerous humidity which was in all the body, was expelled through this strong humour. I have seen, that all those which were cured of such humours grew strong and sound men.

A humo:
like the
Rose, but
worse.

There are other humours which fall into the Knee, even as the Rose or *Anthones* Fire useth to fall, and with such a cold as the Plague doth, and looks like unto this Rose or *Anthones* Fire, but is somewhat worse, having blew spots, as the Rose hath red ones, but the blew ones are not so big, but are of that bigness as the black blisters are, and this redness is altogether nought, for it is a flower of the cold Fire. But if that Member hath great help from the body, then it doth not so much hurt, for there fall little holes into those blisters; and when their skins are pulled off, their matter looks black, and falls out, and these are easily healed, but are worse than the *Anthones* Fire is, and ought not to be made wet, neither must they be annointed, but kept onely warm and dry, as long as the redness and the black blisters hold, then plaisters are applied unto them, as other little holes usually are healed.

Dogs bli-
sters.

There are also Dogs blisters, very like unto the above named, but not so dangerous, and they make the Knees swell, these also ought not to be made wet.

Laming
Humours.

There are also on the Knees laming humours, which are of a difficult healing, make deep impressions, cause a great deal of trouble, and are not easily turned or diverted, and do not shew from whence their original is; the pain they cause is just in the middle of the Knee, with a little swelling, and stand on the Knee-pan, there seemeth to be store of filth in it, but is not, onely the pain is apparent; there is a sinew and lame water, which can neither be softened nor ripened, even like the water which is in a Joynt, as we heard above: much pain

pain usually creepleth and maketh the Kneē crooked, or shrinks it, especially toward the day. My constant practise was to dresse and bind them dry, strongly and warm, to keep the Pores open. No greasie things, no Ointments, no wet things I used thereunto, after I had well learned the symptom, but my red Plaister I still applied, and warm clothes. And as I shewed at the great Bands, to keep things therein a sweat, so these lame biles also will steal away; for if Patients sweat well under the Plaister, they will doubtlesse be healed, and tie the places hard, though it makes the foot swell it matters not, for that soon allayeth and goeth away, if kept warm with clothes, even as other humours are expelled by keeping open the Pores.

CHAP. XXII.

Of Wounds made by Gun-shot; of the abuses committed with the thorough pullings and Ointments: what a Surgeon ought to note here.

ANy shot that went thorough Mans body is held mortal, because the internal parts are spoiled and hurt by that heat; such Wounds are not easily cured: of these I intend not to treat, nor of such, where the shot hath carried all away, which things can neither be filled nor set on. We will speak here, how to quench such burnings, and how such inflammations are to be prevented, so that that burning cause no further mischief than the shot hath made, and then how Surgeons in such particulars are to regulate themselves.

The condition of one that is shot is this; some bullets stay in the Wound, or else go quite through; if gone quite through, then the cure is this, that the burning be quenched, because if that prevaieth, it causeth more hurt than the shot hath done.

But if the bullet staid in the Wound, then it must be taken out, but how that is done, is not well possible to set down every

Wounds made with shot.

Bullets stay, or penetrate the Body.

When a bullet staves?

every particular ; for shots are made several wayes, the one is not like the other, a whole book could be written of it ; Experience must shew the way , how they are to be dealt withal ; and so here you must go to school and learn.

The Antients indeed have used hereunto many strange Screws and Instruments, and were very careful herein. But these are either of no use, or of very little. For if the bullet cannot be laid hold on by the Instrument, how shall it be gotten out ? The bullet will strive to get out at the Wound, if the Patient be laid downward with the Wound, or else by its sinking it will come to a place, where it may be cut out ; if none of these can be, Experience must shew you another way.

Touching Wounds where the bullet went through ; here I must shew the dangerous abuses which Surgeons commit ; if they have a Patient that is shot through a Member , they take hempen threed, or some twisted hair, which rotteth less, and draw it through the Wound , let it hang out on both ends , they put their cooling Ointments to it before they draw it thorough ; and when they come to dress the Patient again then they pull the threeds forth, and besmear it afresh with their cooling Ointment, and then they draw it through again, that part of the threed which staid in the Wound they make very clean, from that it gathered in the Wound ; then they apply their Plaisters to the Wound , as they think they are fitting.

Thorough-
drawings
do more
hurt than
good.

With these thorough-drawings (as they call it) they suppose to have done great good. Nay, some are of opinion, that this is the onely way to dress and heal Wounds made with shots.

But it is otherwise : For they do not effect so much with these thorough drawings as they think, for the hurt weighed with the good, that is done thereby, it will be apparent, that more hurt is done than good, and ought to be omitted altogether.

Hurts done
with the
thorough-
drawings,

For such a cord or line drawn through the Wound must needs cause great pains, and that not onely at the first, but at the several dressings. This way were less dangerous, and
the

the less refuseable, if the shot had hurt no sinews and blond veines; but this being very seldom, I hold, this scouring should be omitted. For it often fails out, when a blond vein is hurt, and hath stench't her self, this thorough pulling causeth in her a fresh bleeding, which blond stayeth within and causeth no good. And in case a sinew be hurt in that Wound, then this line must needs hurt the wounded sinew at the several dressings, and stir it at this pulling or drawing, which doubtless is not done without causing of great pains, and thereby the worst symptoms are occasioned. For these and many other reasons, which I could alledge here, I hold this thorough-drawings to be a very dangerous abuse, and count the following way, which I made use of, far better, as being an easier and slighter way, causing less pains and dangers, in respect of symptoms.

Object. It may be objected here, that such cords draw out the filth which the fire hath left in the Wound, and the Wound is thoroughly cleansed within?

It may do so; but in respect of other inconveniences, pains, dangers, whereby some Patients are quite spoiled, I hold it for nought. For Nature is her own best Physician, and desires to be aided in these things, which are not contrary unto her; and the matter, burnt flesh, blond, &c. through Natures help separateth of its own accord, and Nature ought to be helped herein with convenient means, as you shall here hereafter.

Therefore the burning or fire being quenched, then there is no more need, but that Nature be assisted, and shat be expelled, which the fire in the Wound hath spoiled, the which is easier and sooner done through the following Medicines, better than with all their thorough-drawings.

I must needs give a hint here of the cooling Ointments, which some Surgeons prepare, of Oyle and other stony and greasie things: Though indeed they do no hurt, and in that respect I reject them not: But there is one thing in the way, at which I am offended, and must needs speak of. All fast things, be they what they will, grow hot suddenly, and cool slowly. Must now such a cooling Ointment be put and for-

Abuses in
the Coolers
committed.

sed into the Wound, where the bullet sticks, either in the bone or in the flesh, while it is yet hot? Surely that Wound must needs be more inflamed thereby? Besides this will ensue also, when such Ointments are poured into the Wound, the Patient must endure the more smarting paines, especially when the bullet is still hot & warm in the Wound. Therefore I hold it to be better, to use means which cause less pains, for it is usual, that to pained places worse things are incident. But where there is no pain, there the Wound setteth the sooner unto rest.

As for the healing of such Wounds, I will tell you what I found to be good, not that there should nor be other cures for them, but onely that the courteous Reader may see, that I and others have endeavoured to the utmost, that hurts and dangers might be prevented, and the good of all Patients promoted.

CHAP. XXIII.

How to cure Wounds made with Shot, and how the Coolers are made, and how the Saltpetre is prepared thereco.

The first thing belonging to such Cures is, that the bullet be taken out, and I gave a hint of my meaning for it in the precedent Chapter, and let it rest thereby.

Touching the burning and fire in the Wound, to quench it, you may note the following things.

First, when the fire in the Wound is at the highest, prepare an Ointment of Honey, and not of Oyl or other greasie things, spout it into the Wound three or four times, or any other way you can best get it in, and moisten all places with-
lin over the bullet also if it be in it. Then take a Tent of Gum Tragadanth, annoint it with the said Wound-ointment, and thrust it into the Wound. But if the Wound be shot quite and through, then you must use two of these Tents, be they short or long, as the occasion of the Wound requireth, let the Tents be thin and not thick, that they may the easier be put in;

in; at last apply a good Siptick Plaster upon, and take notice of its operation.

Then minister to the Patient of prepared Saltpeter 3 ℥ (which follows hereafter) in fresh Well water, or according unto occasion, stirrup of Violets, or of Sloe-thorn floures, minister to the Patient without delay; of this you may give before you dress him; the fire within will the sooner be allayed and quenched; for outward means do not alwayes quench such fire, inward things must be used.

In case the pain of this burning will not cease in two or three hours, then undress the Wound, and dress it again, and let him have one drachm more of the prepared Saltpeter, surely that burning will cease in a short time: If it be not yet quenched, then try the third time, and be provided with a better thing. In the mean while let the Patient drink Water, let him not be oppressed with thirst; the raw Water is better than if boyled; but things cannot alwayes be had in readines: If inwardly a Joynt or principal part be hurt in the Wound, at which you cannot come with the Medicine; of such Wounds I will not speak here, because they are usually mortal.

The greatest pain being gone, then another Cooler may be used, made of Oyls or fat things, as you shall find hereafter, and that may be done safely; onely my advice is, not to meddle with oylly things at first, for reasons spoken of before.

Note also that when all the fierceness and burning is gone, Phlebotomy will be of good use in such places, as the Wound will permit, and that is to be done when the fire is quenched, but if you do it before that, then you do nothing, but make the fire to prevail the more and get the predominancy, for I found it so by experience.

In case the great pain and burning holdeth still, and is not quite ceased, and the Wound also doth not purge out its filth, and groweth redder and redder round about the brim, and the Patient be thereby the more weakened; from thence you may argue, that the Wound is fallen into a venomous symptom. Now is it necessary to let the Patient have a draught of *Aqua vita* (described in the Chapter of Wound-

When a
Wound is
poisoned.

diseases) and let him sweat, being well covered. For what is such a Wound, thus burned by Gun-powder, but a venomous Wound? And in case you cannot have the aforesaid *Aqua visa*, in lieu thereof take good Mithridate or Treacle, and let the Patient sweat upon. For I found it by experience, that with such sweating the heat was taken off, and quenched, more than with the best Medicines outwardly applied; the patient may be thus sweated twice or thrice: In the interim neglect not the Wound, and dress it as it ought.

Difference in Wounds. As Wounds are several and different, so their Cures also must be according. Some Wounds are cured onely with outward means, if timely and orderly used; other Wounds require also inward Medicaments, without which they are not cured.

Therefore vulnerary Potions, which I shall teach you, are not to be rejected, to expel the filth from the bloud and flesh.

To make Coolers. Touching the Patients diet, you heard of it before, which I will not repeat here, onely let me tell of the Medicaments, I made mention of formerly, how they ought to be prepared:

To make the Cooler do thus: **R** Honey lb 2. the juice of Houlleek lb 8. juice of Cresshes five ounces, Rose Vinegar six ounces, phlegm of Vitriol five ounces; mingle all these, scum it well in the boyling, let it be a litle thinner then Honey; thus is it right.

The juice of Cresshes is made thus: **R** Olive Cresshes lb 1. beat them in a mortar, press out the sap.

Phlegm of Vitriol is the distilled water from Vitriol; at the drawing off the spirit of it: Of these in the Chapter of Gramp and palse, &c. more shall be spoken.

This is a good Cooler, it quencheth the fire presently, it must stand and go no further, and the fire must separate the sooner from the sound part: It is not onely good against the fire, the Gun-powder left in the Wound, but other burnings also, caused by Wood, Water, Oyl, Iron, Tin, Lead, Gold, &c. if the burnt place be annointed with it, then a stiptick.

Riptick Plaister applied to it, will do very well.

This fire being quenched, and the pain allayed, then milder Medicines must be used, which mitigate the Wound, and help to expel the rest.

I will teach you one or two I made use of my self:

R Wax four ounces, melt it on a gentle fire, add to it of fresh Butter one ounce, of Lin seed oyl two ounces; all these being well melted, then pour it forth into a pewter dish, in which be water of plantain, or Roses; stir it well about, make it hot again, consume away the Water, pour it again into the dish, stir it well about, then set the dish on a place to warm, stir it still, then all the water will be gone, stir among it of Bole half an ounce, then is the Ointment prepared for to get out the fire, let it lie as deep as it will; the Wound must be often drest with it at the beginning, and the Plaister before spoken of applied to it.

Another cooling Ointment, which quencheth not onely the fire, but draweth it out also; but it is not so good against the burning caused by Gun-powder, as that which is prepared with Honey: Make it thus:

Another
Cooler.

R Lin seed and Hemp seed-oyl, *an*ss **R** Oyl of Poppy seed four ounces; mingle these Oyls, beat them, put a spoonful of Vinegar to it, let it cool, some feces will settle to the bottom, which cleanly must be separated from the Oyls. Then **R** of Wax three ounces, melt and mingle it with a quarter of an ounce of white Amber, put these among the Oyls, then is your Ointment prepared.

Thus much of cooling Ointments, because it is known enough how cooling Ointments are made.

It happeneth sometime, that though the fire be quenched and expelled, yet the Wound doth not heal, and is at a stand. In such a case use the following remedy.

In case the
Wound
Healeth not.

R Gray Calmy Stone, and *Tutia Alexandrina*, or a Calmy cake, *ana* one ounce, grind them small, put it in a Crucible, let it stand in a glowing hear for an hour, then pour it into good Vinegar, let it cool there, which being done, then take it out, set it again into a glowing hear, and then let it cool, then take the juyce of Nightshade two ounces,

of

of Litharge of Silver a quarter of an ounce, oyl of Roses half a pound, of Wax four ounces, of Frankincense one drachm, mingle all these, and make an Ointment of it.

Simple that are good also in that case. There are many Simples found also, which take out the fire, and are of a sanative quality, viz. red and white Colewort, Soladel, and many more of that kind. And some Animals also are good, viz. Frogs, Geese, &c. of these I speak no more here, Surgery being of a greater concernment with the Manuals and Experience in it, more than great practicing can do.

Manuals, &
Experience
is best in
Surgeons.

To prepare
Salt peter for
Wounds
made by
shot.

An expert Surgeon, according to skill and Experience, will find more things than conveniently may be set down in writing, when, where and how is to order and alter his Medicines, and to make them milder or stronger.

This I will teach you, how the aforesaid Salt peter is to be prepared for Wounds made with shot, and how Tents are to be made and used, because the preparation is not known to every one.

First touching the Salt peter, its preparation is thus; its naughty humidity is to be taken from it, and a better restored to it, that it may safely be used for the good of the patient, it is of a good scent, it quencheth thirst, it allayeth heat, provoketh urine, and is endowed with many good qualities, not known to every one.

Its preparation is thus: *R* Of the purest clarified Peter two ounces, put it in a pot, and make a circular fire about, let it be melted, it being melted, put a little quantity of purified Sulpher to it, that being flamed away, then cast more into, till a quarter of an ounce be burnt in it, the Sulpher clarifieth the Peter; and when it is purified enough, cast it forth, and pulverise it, and put it into a Bag or *Mantica Hypocratis*, put Rose water to it, and make a *Lixivium*, this Lie boyl away half, let it cool and shoot into Cristals, which you keep for use; boyl away the moiety of the remaining water, let it cool and shoot again; pulverise the Cristals, keep them from the air in a glass for use.

The Tents formerly mentioned are made thus:

R The joyce of Speedwel rectified through Wooll, two ounces,

omees, Gum Tragacanth purely beaten half an ounce, mingle and reduce it to a pap, let it stand in a warm place, it will be like dough, then take lint of Silk, roul it in this pap on a pewter plate, and keep these Wicks for use. Note, these must be made of a pretty bigness, because in their drying they grow less; when they are dry, and you have need to use them, then take one, cover it with your cooling Ointment, and put it into the Wound, the Wick will swell in it, and the Tragacanth attracteth all the moist filth, which at one time with such a Wick you may get out of the Wound. The lint the Wick is made of must hang out of the Wound, to be pulled out thereby, else it may be lost in the Wound. Use the Wicks so long, till the Wounds are cleansed, and the heat and anger of it be past.

Some Surgeons use Camphire to cool the Wounds, mingling it with other things; but they do not well, because Camphire is not of a cold quality, but of a penetrating heat. And that Camphire bringeth out heat and expels it, is not because it is of a cooling property, but it comes from other cooling simples mingled with it. In this case Camphire is not to be used, for many reasons, which to relate I forbear at this time; and chiefly in Wounds made by shot it is to be avoided, by reason of the affinity it hath with Saltpeters fire, known to Artists that deal therein.

There are some Surgeons which use Gum Opium to their cooling Ointments, but as far as I know it is to little purpose. Such Gum is not good to any Wound, for outwardly it cooleth no Wound, within the Wound it burneth, unto which Experience beareth witness. Therefore it cannot quench any burning caused by Gun-powder; that thing quencheth such a burning, which attracteth fire, as Saltpeter and Sulphur doth. Saltpeter and Sulphur keep their native quality still, which is, to attract that fire which they have lost, and quench that they set into fire. No more of this, and let every one defend what they use; I do not intend to gain-say that, which others have found good in their trials; for experimental knowledge is endless, and every day new things are brought to light, and they may be such which I do not know of.

Camphire
of no use
here.

Gummi
Opium is
nought here

CHAP. XXIV.

Of Bone-fractures, and first of the naughty custom which is kept in dressing them.

TO cure Bone-fractures is, common, and known almost to all, it is of great consequence that it be rightly understood; for many know much, but have small experience, and some want fundamental knowledge, who doubtless make many naughty cures, as Experience witnesseth: and whereas I have spoken in the first Part of many abuses committed in general, so I thought good to speak in particular of abuses that are committed at the dressing of Fractures, and to give a warning to Novices in Surgery.

Abuses at the dressing of Bone-fractures. Touching the naughty use at the dressing of Wounds, whereby Patients are neglected, which though it be common, yet it shall not stop me in the disclosing of it, for reasons quoted above, Know therefore, courteous Reader, that under this common use there lieth hid a great abuse.

If a Fracture be set and placed right, after the setting they dress and bind it with splinters made purposely for that use, these are laid round about the Fracture, and with fitting fillets and bands, on which there are small eylid holes, through which the tapes are put, and so pulled together, and closed up, that it stir not. Before they do so, they usually make a pap, called the drying band, of Tile stones, Bole, Walwort, and other such like, as every one thinketh good, or hath seen others do it; this they apply about the Fracture, hoping with this Drier to reduce the Fracture to a speedier healing: This is their common way, and hold it for a Master-piece.

As touching their Medicaments, I do not intend to disanul them, and to make them of no effect; I should not dislike them so much if they had dealt well with the Bone-Fracture. The quoted manner of dressing I do not like at all. First, by reason of the great pain caused thereby to the Patient, because

because every Bone-fracture being set right, striveth a little to a swelling, but the Fracture being thus inclosed and bound up, as you heard, how can it come to a swelling? (which Nature would have:) Therefore she presseth and striveth the more, is made angry, and swelleth the more, and still at the bands, where it finds any vent, there it forceth out the swelling, which cannot be done without smarting pains to the party.

Yea, by this anger and forced swelling a whole Joynt and Member is suffocated, which can be proved by woful examples. But this is little regarded of those, who are ignorant of Nature and the true cause: and though it doth not happen alwayes, that a Fracture is choaked with such dressing, because it getteth vent sometimes, yet that pain is so great, that all those parts about the Fracture, be they sinews, veins, Muscles, &c. are so much angered, that the Patient is bereaved of his natural rest, for in his sleep he feels such pulling in the bone, which awakeneth him with an amazement, these smartings and amazements may easily cause other symptoms, *viz.* Feavers, Inflammations, &c. all which is caused by his untoward and rude dressing.

All this is not enough yet, which ensueth upon such rude dressing, there are other difficulties and inconveniences. For they dressing a Fracture in the quoted manner, they can neither see nor know well, whether the broken ends are well set or no, for they think, if the splinters and boards lie well, then the bones also stand well together. They little think, that the parts of the broken bones either at the left or right side are terrified, and so the bone stands awry and crooked. This maketh them leave the Fracture undressed for some dayes, thinking as long as the splinters lie right, the bones also are in a right posture, which must not be taken ill at their hands, because they not knowing how to dress a Fracture well, it is no wonder, why they are so loath to undress it; but this is little ease to the Patient, which many times gets crooked legs and joynts, the one standing outward, the other inward, which such Surgeons little regard, be it straight or crooked, as long as they have made a cure.

This before named manner of dressing is old , and hath been practised many years, and so men must beleive that it is good, because it is antient.

I will say nothing of that which is still in use, *viz.* of the Screw-box (which hath been a long time in practise) not regarding the great danger and hurt which they cause thereby, as daily experience witnesseth , but poor Patients have small cause to rejoyce at this. This box usually openeth with wings, which some use for Fractures: I partly commend it, but never made use of it, because my Band is easie, and the band with the Leg may easily be lifted, and thereby the whole Member I may easily lift which way I please, and never feared to stir the Fracture, because no splinter nor band is made loose. And when I intended to open it; then I placed the Leg even and plain as I thought it was fittest, and then I laid it down and undid the splinters, which I was to take off by reason of the Wound, which was to be cleansed.

I will not speak here of those, which think themselves wise and subtiler, and make use of Wheel-chips, or such boards that are used for sheaths: such things indeed are of no great consequence, neither doth it matter much, whether the one use Walwort, the other broken stones, and a third use another thing, and every ones cookery differs according to their skill.

To cure a Fracture in it self, understand me right, is no great skill, because every broken bone easily and willingly inclineth to healing, but the Manual is all in all, how to deal well with a broken Leg or Arm, and to keep it in a due fashion and posture; of all which I will give you a full information.

Courteous Reader, I would have you ponder it, and not be easily misled, neither to think the worfe of the slightness of my dressing of Bone-fractures and broken Ligaments. Be assured, that such manner of dressing, which I will shew you, causeth less pains, and is more easily done than the other way named before, though generally used among Surgeons, especially touching the swelling, as you heard before, and you shall hear more of it.

For many reasons known to me, I will not speak much of here, how a Fracture is to be cured and healed, without the use of any splinters, onely the Fracture must be carefully and rightly set, and kept quiet in a good rest; some Surgeons begin to practise that way, and have good success therein: But being it requireth great carefulness, therefore that way pleaseth not every Surgeon. That manner of binding and dressing which I will set down, I hold it to be the best, as being the safest way, accompanied with less peril, causing fewer pains and little swelling, even as if the Fracture were not bound at all.

CHAP. XXV.

A fundamental Instruction of the true Cure of broken Bones, how Surgeons ought to be regulated in the dressing of them, and how to keep the Fracture from up-swelling and from pain.

IN broken bones it usually happeneth, that either the skin or the flesh is broken, or both these be whole, and onely the bone is broken; this difference I speak of by reason of an open Wound; their cure is of no great difference: I will set my Cures one way for the most, hoping the judicious Reader will be regulated after my instruction, in other Fractures, of which I shall not altogether be silent.

The difference of Fractures.

In the first place it is most necessary, if a Surgeon hath a Fracture in cure, that he discern Mans inward condition, especially of the Ligaments, for these differ very much, sometimes there lie two together, sometimes one, and one is crooked, and the other is straight. Anatomy School teacheth largely of it, and thither I direct you.

To know the condition of the ligaments.

A Surgeon being made ready, and having all things needful, in case he be to dress a Patient in haste, for delayes breeds no good in Surgery, especially at the dressing of Wounds. Let him have in readines a bundle of pine-wood splinters of

To be ready for all things.

all sorts, to fit the Fractures above and beneath, of a pretty strength, broad and small ones, crooked and straight ones, and to have a store of all sorts of boards and splinters, and let him split them with a Wood-mans Axe or Hook, and cut them hollow, some must be hollower than others, some must be small, some broad, some short and some long, according as the wood will bear it, the one crooked, the other straight, the one thick, the other thin, some strong ones, some weak ones, of an arms or fingers length, as the wood will cleave in length, some crooked, others crookeder. Briefly, you must have all sorts, and such also which you think are of no use, these may fit best of all, sometimes I chose the most crooked and worst of them, which Wood-men intended for fewel, and splitted them, which came out hollowed strangely, and were best for my use, into which I placed a Knee, or Ankle, or Elbow, a Hand or other crooked Member; and as Men differ in their Ankles and Joynts, so these splinters must not be of one sort, therefore I sought and measured so long, till my desire was satisfied. The splinters must be measured first before you stretched and set the bone, else it would fall too long, both for the Patient and those that bear him up, and the Fracture may be stirred, and that which you set together might easily with one gripe be unset, which would prove ill and painful to the Patient, and cause a greater swelling. It would be a gross fault, if you should not first measure the splinters, before you touch the Patient to dress him. And having ordered the splinters, then spread some plaister-salve on them, that in their application they may stick the closer; and do not spread too much on them, else in the dressing they would be stirred, and though you think the splinters are well applied, yet will they stir when pulled and laced together. Lay the splinters a fingers breadth asunder when you apply them about the Fracture, because they come closer at their lacing and binding. Therefore lay them not too close, else at the pulling they will go one over the other, and too many splinters are more hurtful than two few. In brief, there was no wood so crooked, but I made crooked splinters of it, and the bigger the billet was the better I liked it, and the splinters

ters will fall more hollowed. Therefore the greater and crookedder the wood is, the better the great ones for grown people, and the smaller will serve for children, I had long splinters reaching from the foot to the hip for unruly Patients, they will make them lie still. And if a Surgeon dresseth such Fractures, and he hath a thousand of such splinters in store, *viz* great, small, crooked, straight, hollow, plain, weak, strong, narrow, broad and broader ones, let the splinters be as they will, they will be for some use, and your store will be no sore unto you, for I had use for some, which I never thought they would be serviceable; practise made me to get such a store. Therefore provide good store of them, and if some do not fit, you may make them fit for your use, as the several Fractures may require. For though you may think they will fit, yet they want much of that, be it in their length, breadth, smallness, narrowness, straightness, or crookedness, which you cannot know before you tried it; he that weareth the shoes knoweth where they wring. Begrudge not your labour you bestow on the cutting, measuring and applying of splinters, for it is one of the chiefest Manuals, to lay splinters aright, and to set them well together, for if you miss in the due placing of splinters, you may miss in the whole cure.

Many have on their splinters laces and loops; I do not condemn these, for many honest Surgeons made use of such, and do still, and have had good success with them. But I never used them, because I had good store of splinters, and used such hollowed splinters without lacing, applied them loose on the plaister, and pulled them together with two or three bindings, commonly I used to it some pieces of fustions, cutting them of two fingers breadth, and somewhat narrower, that a knot could be made with them, and to the mindmost I made the first knot, then I could see how it would fit, whether there be too many of the splinters or too few, and placed them as I saw it fitting, then I laid the uppermost band, where I could see the better, whether it would be too much or too little, that knot I pulled hard together, because it will still yeild and slacken, at last I laid the lowermost band,

band, then commonly the middlemost was tied too slack, which I opened and pulled it as hard as I thought it would hold the Fracture without hurting the Joynt, and the Fracture be kept from stirring. These three bands hold the Fracture, and if dressed and bound otherwise it doth no good. Thus much of splinters.

Of the
Roulers.

A Surgeon ought to have two roulers, or at least one, though there be no need of them, yet they must be had in store, and great pieces of spread plaisters, seven or eight, and a number of all sorts of splinters, short, long, crooked and plain ones, for to flap-Wounds you must have several sorts, according as they are made.

Roulers must be made not too broad, and must run with the thread or Wool, and cut with the thread, or tear them after the thread, which is best, and cut off the ravelings, for some of them have hindered me much; in the same manner you must cut even the plaisters and the splinters all the sides along, for the smoother and plainer a thing is, the better is it handled, nor let the linnen be wrinkled or placed, nor the plaisters neither, and apply them plain and smooth, and apply the plaisters straight, for they will slacken fast enough when the splinters are pulled together; wet your finger either with Water, or with a little of the Ointment, then the plaister will not cling to your finger.

Then have a long Rouler at hand, with two other ordinary Roulers, as also five smal pieces cut from one end of the piece to the other; and have your Surgeons box filled with necessaries, viz. Raifor, Spatule, Sheers, keep the box clean, that you may in nothing be hindered; have in readines also a good piece of plaister in a box of Tin or Copper, which being hard, you may sling it into hot Water to soften it.

Have a good Knife also about you, in case you have need to cut the splinters to a fitnes; also a Sponge, and a threaded Needle, and a piece of lint. Besides the great Plaister (which must be spread broad and thick) you must have many smaller pieces, whereby you may fill up places if need. Therefore spread alwayes more Plaisters than you think you shall

shall have use for. *Item.* Be provided with Stitch-plaisters, bolsters or bags filled with chaffe. Provide also Fracture plaisters, of the which hereafter is spoken, and spread it on a strong cloath, broad and long, according to the bigness of the Fracture: and you must be provided also with ordinary Plaisters, made of two parts of Wax, one part of Turpentine, and one part of Suet, and spread them thick and broad, as the first Plaisters are: lastly, you must have in readines also broad linnen, as you shall hear: all these things named are necessary for to dress a Fracture.

The above-mentioned Fracture-plaisters make thus:

℞ Clear white Resine (no hard glasse Resine) ℥ 2. Cyprus Turpentine ℥ 6. melt these together gently, and not boil it, put to it of *Barba hirci* four ounces, which Hearb must be pulverised; stir it so long together till it be almost cold. Thus is the Salve made; if you will spread it on a cloath, then pour on it boyling hot Water, then is it plyable to be spread.

How to
make Fra-
cture-plai-
sters.

I like this Plaster better than the before-named ordinary Cataplasmes or Drier: For it sticketh close to the skin, & stirs not in haste, even as splinters also applied to the Fracture must not stir. This plaster draweth forth the moisture from broken bones and ligaments, and maketh their gluten stiffe and strong, through the vertue of the Resine, which is the true external Balsam unto bones and ligaments. For this Resine draweth forth the superfluous moisture which the bones cast up, and coagulateth the on-growing the sooner, and maketh it come together, and then the said Hearb *Barba hirci* is an extraordinary healer far beyond other Wound-hearbs: Indeed Comfrey, Walwort, Sanicle, Bistorta, have their vertues also in the joyning the bones together, but not comparable to this Resine; true, they draw forth the filth from flesh and blood, but to get out the matter out of the bones, they are not strong enough, much less is *Terra sigillata*, and *Bolus*, of that vertue: true, all these are great driers, but have no power to extract things that lie deep.

The vertue
of this plai-
ster.

I will say nothing here of those, which use to broken bones several fat and greasie things, there is no reason to defend

To heal
with greasie
things is
nought.

what

what they do, whose actions I reject as nought for many reasons; Oyls, Waters, Lies, &c. are not to be used. For no man that is swelled ought to be wetted, drying things are good for him; I dissuade here the use of Oyls and Ointments, though they be more pleasant to Mans body than Lies or Waters.

Before I come to the handling of the Fracture, I will first inform the courteous Reader, how many sorts of Fractures there may happen unto Mans body, then will I speak of them in particular, where you shall faithfully be informed in things that I have found in my practise, to the good and comfort of poor patients and Surgeons.

It happeneth many times, that the foremost part of the Arms bones are broken, sometimes the uppermost great bone or Shin, and sometimes the lesser bone, and sometimes both these are broken, and sometimes the upper part of the Shin hath a Scissure, and sometimes the Arm or Hand is bowed or dislocated, and may be set right again, even as a stick bowed may be made straight; sometime their Fracture breaks through the skin, at the end of it, and are apparent to the eye. In brief, there are several sorts of Fractures in these places, all which are known by the practise; as that part above the Elbow, and those below the Knee, and who can remember all such accidents? sometimes a bone in the Finger is broken, and another in the Shoulder, or the Shoulder blade, or the Neck bone, or a Toe, or the knee-pan, which sometime is split and broken. I have had Patients, whose knee-pan was thorough cloven; sometimes the Elbows-knockle is broken, sometimes the gibbous part of the Hip, as it befell mine own Child, and grew halting of it; sometimes the Ankles is off from the bone, sometimes the bone of the Foots wrist is broken, or that upon the Hand, and sometimes the bones go asunder, or raise, yet are unbroken, sometimes the Skull is broken, and the bones and crissels of the Nose, &c.

If the Patient hath a bowed Arm or Bone, then feel whether it be broken, and look well in what place it is so, for sometimes a Bone is bowed without a Fracture, which by the hard feeling you may learn whether it be a Fracture or no;

no ; if none, then set it right again, even as a hselstick may be made straight if bowed ; then lay a four-doubled Plaster to that raised part, and lay splinters to the hollow side, two splinters will serve the turn, one to the raised part, and the other to the hollow part, use not many Roulers, onely pull it hard, it will not stir, if once you placed the splinters right.

There is more difficulty to heal a broken bone on the Leg, then one on the Arm, and the former requirerh more time in healing, and stronger bands ; and a Fracture above the Knee is of a worse healing than that below it, and the nearer it is to the Knee above, the worse it is ; if the Fracture be on the Shin, it is easier healed, than if it were near the Joynt ; a Fracture near the Hip is hardly cured ; a Fracture near the Knockles is worse than that in the middle. In brief, the higher it is on the bone, the worse it is, and the nearer it is to the joynt, the worse it is to be cured. Of all this you ought to take notice, and deal more carefully with the Leg than with the Arm, for you may think the Leg is cured, and the Patient may run away with it, when he may scarce halt on it, here and there some defects may be, and his Leg may swell and his Foot also, or may wither and dry away, therefore have a care, and keep him under your cure for some weeks.

If a Leg be broken either above or below the Knee, dress it not at home in your house, nor in any strange house, unless the Patient be resolved to stay there, for if after dressing he should be removed, the bands would not hold as well as when he lieth still. Therefore presume not to dress a Fracture in a strange place, whence the Patient must be removed presently after he be dressed ; the Fracture on a Leg is of another condition then that in the Arm or Shoulder ; a Fracture on an Arm may be dressed in strange places, for the Patient may then more safely be removed after dressing.

The Patient being resolved to stay in a place, then place him so, that the Fracture come to lie forward, and in case you cannot do so, then do it thus, that you may come at both sides to the Leg, which is more convenient, you may ask the

Patient which way he would lie; at first let him not lie too low, for in time he will be low enough; let him lie high at the head, let his bed be somewhat hard, for in a soft bed he lieth too deep, and you must not shift him from his first lying in eight days.

For the longer the first dressing lieth on, the better it is; the greatest error is here committed, to let the patient rise too soon, or to shift him, when once well laid and dressed, for if the Fracture be stirred but in the least manner, than the healing of it is extremely hindered thereby.

Having well laid your patient, be it Man or Woman, young or old, let him lie onely in his shirt, and in no other clothes, and place his bed so, that you may come conveniently near him with your right hand, your spread Plaisters and other necessities must be laid on a stool to your right hand, and the hollow side of the splinters must be spread also with salves, that being applied to the Plaister, they may stick and hold the better, and such things, which you do not use at the present, lay aside, that they may not hinder you, especially such splinters which you do not use then, that the other which are fitted may the more aptly be applied.

What persons ought to be present at the dressing.

Touching the Persons that are present, you must have one to reach things unto you which you have need of; and there must also be two strong men, which are sound and hardy, to hold the patient unmoveably below and above; there must be also another man or woman to speak comfortably to the Patient, and in case he faint, to refresh him with some Cordial; and there must be one more, which holds the Patients other leg, for fear he should interrupt you in your dressing; if any more persons are present, let them stand off, and let none come near, unless you bid him to fetch or reach something for you. Being thus well provided with all necessities, then take a Basin full of cold water, with a sponge in it, and set that by you, that in case the Plaisters roul or fold together, that you may open them again with your wet hand.

The Surgeons posture at the dressing.

Now touching your self; pull off your doublet, thrust up your sleeves, be bare-headed, have some cloth near ye, to dry

dry your hands withal and other things, for it is fitting to have clean hands; if the Fracture be above the Knee, then give a strong swadling-band into his hand, which holds the Patients upper part of the thigh, let the Patient put it through the thigh, and hold it by the two ends, or another that stands by may hold it; for whether the bone be quite off, or not, it must be more strongly pulled to, then when it is but contused or crushed; therefore the swadling-band must be put through the Leg which is broken, that the one or other hold it fast, & if one grow weary in holding, another may take it. & so to keep the Leg from sinking; he that holds the swadling-band must stand to that side of the Patient where the Fracture is; and he that holdeth the neather part of the Leg, must stand on that side which is sound; and the next man, which holdeth neither cloth, swadle nor leg, but is to help you to joyn the Fracture, let him lay one hand to the Patients muscle, and let him lay the other hand below the Fracture, and extend the Patients skin; and with both hands keep it asunder, that the skin be spanned asunder; & above they must hold strongly also with spann'd hands, and let one hold also high on the thigh, that you may not be hindered when you apply the Plaisters, splinters, &c. let the Patient not lie in the midst of the bed, but near the side of it, where he is dressed, that those which hold him may do it with more ease.

The Patient must not lie too high with his head, whilst he is dressing, but somewhat lower than ordinary till he be dressed, then do as you please, but stir not his body. He that holdeth the Leg below, must stand thus, as if he stood between the Patients Legs, and that at the beds feet, and not at the side, unless it could not be otherwise. He must have also a swadling-band, to lay it singly about the Patients broken bone, no higher than to the Knees, that the plaisters and splinters may the plainer be applied. But in case the Fracture be next to the Knee from below, then use no swadlings over the Knee, it would be obstructive to the dressing. In case the broken bones cannot be so or well joyned together, then there must be used another help; one must lay one hand above the Knee, and the other below it, and turn in the swadlings a little, thus

will be able to hold out the longer; this swadling-band is the fitter to hold by, then to hold with the naked hands, which if they sweat will not hold so fast.

The broken Leg not to be lifted or stretched, unless the Surgeon be ready with all his necessities.

Let the bone neither be lifted nor stretched, unless you be ready with all your necessities about ye; let threed and needle not be wanting, the sponge be sufficiently wrung, many little pieces of plaisters be ready cut, some bigger, some lesser, as paper Roses are usually cut, & the splinters inside be ready spread, and some pieces of salve of a beans bigness be laid by you, that if one splinter do not stick and cling, you may spread on it such a piece of the salve, for splinters will not alwayes hold near the hip, where the place is thickest, there the splinters must be spread most, then the applied linnen will hold the better. Two or three plaisters more you must have, of a fingers breadth, and of a spans length, in case two or three splinters were to be joyned together, that with these plaisters they may be kept together; and if these plaisters be cut with the threed, then they hold as firm as a stitch-plaister, and must be laid the cross way on the splinters; order thus three or four of them in the middle of the Leg by the Fracture. He that holds the Patient, either his sound Arm or Leg, and is to comfort him, must not be on that side where the Fracture is: and he that reacheth things to you, must stand behind you on the right side, and not too nigh, as to touch ye.

Having all things in readines, then in Gods Name bid him that holdeth the Leg below, to lift it up, and you lay your left hand under or beneath the Fracture and lift up, and he that standeth at the upper place must help also to lift, and lay him in a posture.

To feel the Fracture.

Annoint your hands with *Dialthura*, and feel about the Fracture, to know what condition it be of, whether it be broken outward or inward, up or downward, whether the upper bone which goeth to the Hip; sometimes it falls at the side upward, but seldom: be cautious in the feeling, and stretch it out without interruption, till you see it is enough out-stretched, and then with your hands set the bones together as well as you can, set it so, that no unevenness be seen, no hole, no bile, no bowing; feel with your hands to and fro,

up

up and down, and on both sides, and try every where, whether you can feel any unevenness, whatever you find uneven, leave it not so, but press it in or outward, or up or downward, even as the staves of a tub are set right, which were bowed in or outward; for if these uneven things are not made even with pressing they will not hold so well, they must directly be set even one upon another, therefore give not over, unless you be sure they stand one upon another; let another also feel and touch after you, who in your absence may bear witness, that you left not the Patient before the bones were well set together. For such Fractures are more difficult to be set one upon another, which are short broken off, then those which are onely shattered, for there is less toil to bring such splinters together, and to keep them together, then the other, which are short broken off: for things broken in splinters willingly keep together as they are set, and contused bones are easier healed than bones short broken: and in case you cannot well press in these bones, then is it a sign, that some splinters or other branches are in the way; if so, then you must regulate your self with the rest with pressings, heavings and turnings: bid him that stands below to turn his hands, either out or inward, as occasion requireth, and see whether you may find the true places for such branches, and to set them into their due places. In case this will not do well, then bid the lowermost man to bow his hands downwards, and do as if you would bow his bone, then you will see, whether it will hang on, and then seek for its due place, unto which the branch belongeth.

But if a bone be contused, so that it will fall short, then let it be well out stretched, then ball the bones together with your hands, as a snow-ball is made, and press it hard, as you think good; this is easier done then to set right a bone which is short broke off, and keepeth better unstirred in the band then the foresaid Fracture; and a Contusion healeth more firmly and strongly then a short off-cut Fracture, which usually causeth a halting, consumption and exiccation of the Wound, a Contusion doth it not so much; if that Fracture be successfully well set in its due place, then take not too hasty
away

away your hand from the Fracture, keep your hand or thumb on the place inward, that the Fracture may not go out again, and those who hold the Patient may in the mean while recover themselves in their weariness.

Then take a broad short splinter, which is fitted well for the place, lay it first upon the plaister, where it is not spread, for the plaister must be laid double, plainly extended, without any wrinkle, the plaister must not wholly close the bone, but must stand asunder two straws breadth, or half a fingers breadth, else it would stick so close to the bone, together with the splinters, that you can hardly get it off without danger; for my self had many times more toil with the second dressing than I had with the first, because it stuck so close to the skin, especially if any hair were grown on the Fracture, and it were fit that the hair thereabout be first shaven away. Now having applied thus the plaister then lay the undermost splinter next to it, the Patient may the easier be lifted with the help of the other two men, which will have enough to do to hold him fast, before he be fitted in his posture. That splinter being laid, then lay also the uppermost splinter, short and broad, and tie them both together with one band, then you see how far asunder you are to lay the rest, for these splinters will creep closer together than you may imagine; then lay the broadest splinter upon the Fracture, and before you lay it, lay first the plaisters made Rose like, directly upon the Fracture, to the place where the Fracture came out at first, to keep it in; then lay a thick bolster upon, and the Rose like plaister will be kept together by the broad splinter, and must not be laid too thick one upon another, else they would pinch the Patient too much, and growing hard there, would print a hole into the flesh, which would be a hinderance unto the healing: You must keep open one part of the plaister, that it may be taken off, for it will not come off easily. The open part of the plaister must not be just upon the Fracture, nor below it, but at the side, and there must no splinter come to lie on that streak, but it must be betwixt the two splinters, and the bands must be well pulled together for all that, so hard, as if the plaisters were laid one over another; and when you have

have laid that plaister Rose upon the place where the Fracture came out, then make loose the two bands, where the two splinters were bound together, above and below, to see how it will fit best, and let these two splinters lie still, and then lay the rest of the splinters as you please; for the two splinters which lie at the side of the Knee must reach more than a hands breadth below the Knee, then you may tie them together, such long ones will hold strongly; the four broad splinters must be ordered, as you heard above, must lie close as if they were grown on it, the one under, the other above, two at the sides, and then sometimes two little splinters betwixt, according to the bigness of the Patients Limbs you must regulate your self with your splinters. Look well, that the plaisters be longer and broader than the splinters, for if the splinters be longer they pinch the Patient; if so, then he must endure it till he be undrest again, which will not be before ten dayes be past. You must also lay some small cut pieces of plaister to such places, where you cannot come to with the great plaister, which are of a spans breadth, and of two spans length, and thus they fit best; where the length or breadth of the plaister doth not reach unto, to that space others must be laid, and so you must do with the small pieces, in case the great ones do not fit. At the dressing note, bind the neathermost band first about, pull it well together, that the splinters lie on close, then bind the uppermost band by the Hip, and tie it fast that it yeild not, and the small bands you stitch or fasten with a Stitch plaister; then bind the middlemost band above the Knee.

That which hitherto hath been spoken of bands, understand it thus: lay two or three bands in the bed under the Patients Fracture, that when you intend to tie them closer together, then you need not to lift his Leg to thrust the bands under it; therefore lay all the bands you have need of under the Leg, and the garters also, all this must be done before the Leg be laid down. If the middlemost band be tied too hard, then slacken it a little, but if you think it is well, then let it alone, then tie the other bands also, as you think it fit; if one be tied too slack, then pull it closer, and set his great Toe How the
Leg is plac-
ced after
dressing, upright,

upright, and let not his Foot or Leg fall on a side, and suffer not the great Toe to hang outward, for if the Foot lieth usually outward, and is so healed, it will never be turned inwards again, but if the great Toe be turned inwards, then that may be help again in good time.

How to
place a hand
or foot.

The contrary is observed at the healing of an Arm, for if you use the Thumb inwards to lie, you will hardly turn it outwards again, therefore the Thumb must be turned outwards when you lay the Arm into the band. The bones must be set together as they were at first, then they may most safely be healed in the best way as may be done.

At the healing of a Fracture on the Leg, the Foot must be turned more inward than outward, but the best way is to set the Foot upright; this I speak to that end, that you should be the more careful, not to place the Leg or Foot outward, neither must the Hand be bent inward, these are contrary ways healed; the Hand must be laid so, that the Patient may behold the inside of his Hand, and not so, as that he may look onely on the Thumbs outside, for a Hand is hardly turned again if it be healed in an upright posture.

Why the
Arm box is
rejected.

Therefore I reject the splinters made for the Arm, which were spoken of above, because they keep down the Hand in a flat way, thereby the broken bones are hindered, and cannot be set or kept even one upon another, which by the quoted reasons is proved sufficiently.

Touching the upper part of the Arm, there the danger is not so great, because there is but one bone there; and what is spoken here of this part of the Arm, the same must be understood also of such bones that are of the like conditions.

How to deal
with the upper-
most
bones.

But you must note, that the uppermost part of the bone must more carefully be set than that in the Arm below the Elbow, and cannot so easily be kept even together. And those are much mistaken, who suppose, that when the Knee lieth upright all things are well, which is found false in the practise, and is clean contrary: If such a party is dressed, then lay him on a sack in form of a cushion, which must be of an ell length or longer, according to the Patients bigness, which

must

must be of an ells length, or longer, according to the Patients bigness, which must be filled with chaffe or straw cut small, it must not be filled too full, leave it hollow in the middle, and lay his Foot or Knee into, lay some straw for his Heel to rest upon, his Heel must lie deeper than his Knee, then the straw raised by the Foot or Knee, which then lieth as a stick unmoveable, and the neather part of the Leg must lie higher, that is, the Foot on the sack must lie higher than the Leg, and the Shin must lie higher than the Knee, and the Knee must lie higher than the uppermost of the Thigh. You must have a care also, that when you let him lie so for some dayes, and he doth not stir his Knee, you must look in the whole to the last, that his Knee do not remain thus, which will hardly be bowed afterward without paining of him, and so it may fall out, that if he be healed in few dayes, then you will have much to do with the Knee before you will be able to bend it. *Item.* You must have a care of the Arms, Elbows, Knockles in the Hands, and the Ankles in the Feet. - This stirring and bending at the Knee must be after the second dressing, at the first it is needless.

This is the best and plainest way of dressing of Fractures, and you may look every day to the band several times, onely the plaister must not be taken off, and the Patient, as he pleaseth, may add to, or take from these three bands, and may do it safely without any peril, and such a Patient may with more convenience be carried into the Country, being drest in this manner, then if he were drest after the common way; for this band is light and plain, and doth not burthen the Fracture at all; and in case the bones Fracture would be in a swelling, it may do it conveniently without causing any anger; and that swelling being upon settling, then the plaister, bone and skin setteth also, drawing and elinging much unto it, and thereby the bones are kept and forced to stand stiffly together.

Other ordinary bands, which are applied round about the broken Member, cannot effect the same. For as soon as there any swelling appeareth, then are the bands stirred and raised, and Nature not enduring to be tied up, there is soon an anger
The conveniency of the dressing
The inconveniency of the other bands.
caused

caused thereby, which surely will afford enough of smarting pains. For it is often seen, that such forced swellings press forth betwixt the bands and the splinters, whereby that Joint or Member is suffocated; and in case these mischeives appear not, yet is this incommodity subsequent, that the bands, which lie about the Fracture, and have quite encompassed the Member, are so strongly extended, that when the swellings are upon settling, and the Joynt or Member begins to lessen, that the band groweth loose and slack about the Member, and the foresaid swelling and anger having brought some humour into the Member, causeth the Fracture to yeild to the side, and the healing of it proveth uneven. Hence is it, why so many halting and crooked Joynts about men are seen.

The cause
of short and
bowed
Members.

Why Fra-
ctures
ought not
to be an-
nointed.

I have never annointed any Fracture, because I was persuaded, that thereby the Fractures would be healed soft, therefore I still applied the plaister to it, and never used any Ointment, and drest the Patient but seldom, for I was afraid, that at the dressings I might stir the Fracture. Therefore if the Patient at the first time be well drest, let him keep that band for a time; but in case the Patient complaineth that his Foot and Toe is swelled, and is painful unto him, then look where the fault lieth, and let him not lie long in that misery.

To know
the errors
committed
in the dress-
ing.

You may easily know where the fault lieth, if you undo the bands, and the Fracture hath vent, if then the pain ceaseth, then the splinters were in fault, which pinched the Patient, or else he was pained in another place. In case after this opening the Patient feels still some pains, then is it a sure sign, that something is stirred in the Fracture, be it as much as it will; the place where the fault is committed you may learn of the pains; for when you touch the Fracture on that place where the pain is, on that side the neathermost part of the bone is stirred and turned, either up or downwards, or to the side; if you find it thus, delay no time, undo the Fracture, and bring to right the disordered part, and then drest it in the former manner, and is done quickly. Some Fractures may not be ordered in many dayes.

This

This was alwayes to me a sure Sign, whereby I knew whether it stood well or no with the Fracture, and whether it was bound too hard or too slack.

Short and true Rules of Fractures, whereby you may know in what posture the Fracture is.

Rake nor stretch not any Fracture, neither strike nor set it with your Hands, unless you be sure that it stands right and even, and that you cannot feel no hole, no bile, nor raised place, be it never so little, let it not pass so, but endeavour to set it plain and even.

Measure and fit the splinters well for Legs and Arms, that they be of a fit length and shortness, well cut as they ought, and that they pinch not the Patient any where.

Presume not to dress any Fracture before you be provided with all necessaries, as you heard above; let there be no want of splinters, roulers, linnen clothes, plaisters, and be sure you want none of such like things: be not to seek such that hold the Patient, or that help to lift him, for men at the beginning may be lusty and strong, but in time these growing weary, looking for fresh ones, one danger or other will be caused, and in case you be not provided sufficiently with plaisters and splinters, what time can you have to spread and to split more of them? for when once you begin to press and to set the Fracture, how can you get off or hold up the Fracture, without hurt and pains to the Patient?

The Fracture, where it is broken must be supplied thick with plaisters, especially that place where the bone came forth, and apply small pieces of plaisters close and thick, and keep in the Fracture by force, that it may not come forth again, for it easily comes out by that first place, and the splinters also must be bound hard to it.

Splinters must not be cut too short, which would pinch the Patient; neither must you apply any splinter to the naked skin, else they are burning and pinching the Patient too much.

Bind the Patient not too hard, which would mortifie the Member, which I found true many times; neither bind him too slack, which would easily remove and stir the Fracture; keep a medium according to these Rimes.

*The whole sum be spoken briefly,
And this warning is given really:
Bind the Patient not too strong,
Else he's choak'd, and his blood gone;
Thereby is caus'd the cold Fire,
It flames the Surgeon, to the sick it draws
Smarting swellings, and hearts misery:
Give way for the Pulse, and do not tarry.
This advice I give you in good troth,
In following my counsel be not sloth:
In the binding be very cautious,
Not too hard, nor yet too loose;
The Band must hold the Fracture stiffely,
Yet the pulse must have its way throughly.
Signes bring to the Surgeons head,
That there is no pain when swelling is laid.*

Let the Knees and Toes be laid upright, let them not fall to either side, and let not his Heel be without a stay and rest.

Set the Patient not too soon upright, as if all were well with him, unless you know that he hath recovered strength enough.

Of Flap-fractures, and of their orderly dressing and healing.

HAVING sufficiently and largely spoken of ordinary Fractures, and Contusions, now it follows, that I speak some remarkable things about Flap-fractures, and will declare it faithfully, as much as I have seen in my practise, and as much as Novices in Surgery ought to know,

I call this a Flap-fracture, when the Wound of the broken Leg goeth onely through the flesh and skin, and cometh forth with the one end.

Concerning the healing of these Fractures; in the first place note, that this cure requireth a more exact carefulness than the former Fractures I told you of. For a Flap fracture festereth, even as any other wounded Member, because these must be dressed twice or thrice in a day, for there cometh so much corruption into it, that it runneth through the band and skin, and can hardly be stayed. And in that corruption are bred many times living Worms, and that more in a Summer than Winters season, and sooner in a hot than in a cold Climate, and in some Patients sooner than in others; therefore you are forced to dress them oftner than you are pleased with, because there is a necessity for it; for frequent dressings are hurtful to Fractures; and such Fractures are very dangerous, where the great bones are wounded, and some bones and ligaments gone from them, then is there great danger at hand: These I have been several times at, where the persons present did wonder, and were amazed, how such Wounds and Fractures could be dressed, when so many wounds and holes are in one Wound, and filled up with filth abundantly! My self marvelled many times, how it was possible, that one or the other in such symptoms could have their food; and how life could remain in the Leg; however God gave his blessing thereunto, that many such Patients recovered to their going and jumping, and could perform all man-

ner of work. You remember, that I warned you before not to cut off any thing from a wounded Member which hangeth down, and I give you further warning, not to bereave any Member, though there be never so little hopes for its recovery, for Gods blessing may be great upon it, beyond all mens expectation. And in case any such is brought unto you, or you are called unto them, then view the Wound very well, and touch it but a little, neither lift him, nor lay him down, that you may cause no pains unto him, and terrifie him not at the first, for if you amaze the Patient at first, you make him unwilling to let you touch him. Secondly, look that you stench the blood presently, before you make ready your things, then the dressing of him will fall the easier; the blood unstenched will not suffer you to dress him: make the Wound clean with a sponge, and let it be dry, then you may see what it is, and what defect there is therein: you need to this blood-stenching only a sponge and lint, Cotten Wooll, &c.

Note, that ordinary Fractures do not bleed so much as these thorough broken Flap-fractures, therefore in that particular you must have a care to stench its bleeding: for my part I have had troubles enough with them: Cleanse the Wound well round about, that Worms and Magots do not engender there. And let the Patient eat somewhat whilst you are cleansing his Wound. Bid those that are present to bring forth all necessaries which you are to use about him, viz. the bed, cushions, pillows, swadling-bands, towels to set him upright withal, for with such towels he can raise himself better that way than others may. Then spread plaisters enough, and more than you have need to use; and cut also the splinters orderly, as you heard before, for afterward that occasion you are bereaved of when you are about the dressing of him; make the splinters not too long, nor too sharp, nor too straight, nor too crooked, not too small, nor too broad, not too short, nor too weak, not too thin, nor too hollow; and to fit it well to the Wound, is no smaller manual than the dressing it self; for a binding can be renewed and altered every day, but it is a harder matter to alter the splinters and plaisters.

plaisters. Note also, if there be need of some broad splinters, where great holes are cut into the whole piece of it, these hold the more strongly and stiffely; two of such may be laid opposite one to another, and weaker splinters between; but if the Fracture be so great, that without stirring it the rest could not be fitted, then have in readines some Iron ones, which be fit for it, even as the wooden ones, and are better for to handle the Patient withal.

For I dressed once a Patient at *Lentzburg*, whose bone Fracture had thirteen Wounds, all which I dressed thrice a day, and the Wounds were of that bigness, that I was fain to leave open thirteen vent-holes, and still opening one knot after the other on the Fracture, and tied them again with a knot one after another, and still kept the Fracture firmly tied. I should hardly be bleived, if I should speak of the toil and moil I had with it, and I had no sooner ended one dressing, but I was fain to undo the first again to cleanse and dry it, for the matter was so troublesome betwixt the skin, the plaister, and the splinter, that I was afraid the Worms would engender there, for I never took the first band wholly off from the Fracture, else I must have held his Foot in my Hand, if I had taken off the bands, splinters and plaisters; therefore I dressed him thus, that to day I opened one knot and splinter, and the rest at other times as I saw occasion.

Courteous Reader, I tell you the truth, that you may see what ought to be done at such a huge Fracture, which may not be dressed as one would. And when I intended to dress him again, then I took strong splinters, these I applied upon, that I might not stir and disturb him. As you heard, how you ought to fit your self for common Fractures, so you must prepare your self here in this the rather, because you must look to such Flap-wounds every day, and yet you must not stir the Fracture.

The splinters must not too close be applied to the Wound, but let it have vent, for they will move too close to it for all that. And such Fractures must be dressed like another Fracture, onely the first band is left unbuttoned, and that band must not be bound just on the Wound, which must yet stand

free and open, and not touch any other band or splinter; afterward dress the Wound as you please, and tie the splinters, plaisters, salves and bolsters about, as if the bone were whole and unbroken, be it on the Leg or Arm, even as if you were to dress a fresh Wound.

The bands wherewith you intend to bind, lay them down on the linnen before you lay down his Leg, as you have been told formerly; and though you are to spread the splinters with the Fracture-salve (as you have heard before) yet I mean no other splinters, but such which are not to be removed, unless when the whole band is taken off. But the little bands, which must be daily undressed, and the bolsters and roulers, these must not come to the plaisters salve to make them greasie; that if the plaister come to them it may not stick unto, for if that should be, you could never take them off again without stirring the Fracture, and the splinters could not be left unstirred neither.

The last applied splinter must be stiffer and stronger than the other, for that must keep in the Fracture by force, that it do not get out again out of the Wound; and the Wound must be provided with bolsters beneath the splinter, else the flesh goeth out of the Wound. and the bones would then be left naked, and hardly admit any healing, and the bones being naked will grow rugged from the air, and the panicle falls off from the bone, which would make the bones to admit of no flesh, neither is the Fracture desirous of any, and it is dangerous at the first day, to keep the bones and Fracture together, when the panicle is loose it seldom closeth again.

To prevent these dangers, and to keep the Fractures from dis-joyning, and that it need not to be so strongly tied, and that the flesh may the better stay there and fall not off; then before you dress him, first view and measure it well, and cut the hole into the plaister, and lay it about (like a ring) and chiefly on that which standeth out higher, and will come out further (even as I have written before of ordinary Fractures and closed ones) that the ring about the Wound keep in the bone, and then the splinters also of the first band
help

help to keep the Fracture off, and not those that were applied last, &c those that are laid last do not pinch the flesh so much, as when they were laid flat upon.

Though you make the bolsters never so soft, if you bind hard, it closeth and presseth the flesh in so much, that it goeth away the more, and leaveth the bones naked, then these bones will never admit of a cure. But you must make that ring thus, that by the splinters you may know whether they rest upon the ring and do not touch the Wound; that is, on that high place, where the bone strives to get out, you must lay a four-double plaister, but to the other side, where it doth not strive to get out, there you lay but a threedoubled plaister and about the whole Leg but a single one. But if you have laid a double plaister about the whole Leg, as I often use to do, that the band may draw and hold the stronger, then you must lay it thicker about the Wound, by reason you took the other double; all this is to be observed, according as the Fracture goeth out and is hollow; for the Fracture is sometimes very hollow and deep.

As for example, if a Cart-wheel breaketh such a Fracture, it presseth not the bone out by the Wound, but commonly presseth it upward, and for the most part cuts off the flesh above, and forceth the bone into the Wheel track. Here you see it is done on the contrary, therefore the bolsters also must be laid contrary, *viz.* to the whole side, even as in a single Fracture which is not open, here you need not that ring about the Wound, but a plain splinter must be applied on the Wound, with a plain bolster, plaister and ointment, and other things belonging thereto, that the materials may run into, and the band be not fouled; the same also must be observed in other Wound-dressings.

A Flap-fracture made with a Cart-wheel.

Courteous Reader, by way of admonition I told and shewed this unto you, that when you meet with any such dangerous symptoms in Fractures, that it may be a rule unto you how to deal with them, and not to put the Patient into pains. For in such things I was many time perplexed, not knowing what to do, when the flesh began to go off from the bones, and stood naked like a dead mans bone.

A a

Once

Once I had a Patient, born at *Alsfad*, who broke his bone twice above the Knee, to whom with others being called, to look unto this heavy spectacle, I saw the middlemost piece about six thumbs breadth standing naked from the flesh, going about to get it in again, behold on the other end it was off the flesh, for he had two fall Fractures on the Thigh, I seeing that it was quite loose, and without any streaks, and looked like a dead mans bone, and I perceiving that it would stick no where, then I took it out quite, and dressed his Wound as Fractures usually are dressed, and set the two ends to their places as well as I could, and I healed him so, that he was able to follow his Calling, but he halted in his going as deep as the broken bone was long; there came such corruption from this party, for horrors sake I dare not write of it. This example is quoted for that purpose, that you should not give over any broken bone or Member as long as there is any life in it, and this party carried it as well as any did with a Rilt. Therefore be not too rash in cutting off of Members, unless the thing well considered be found, that there is no other means left for to keep it on.

No bone ought to be taken out of a Wound, unless it be quite loose, neither do search much into the Wound with the little Seeker, as is usually done, for such bones will loosen themselves, if they must be loose; stroak the matter neatly toward the Wound, and look well, that the Wound beneath grow not hollow, which usually happeneth. For sometimes the flesh falls quite away which at first stuck, because all was crushed and consumed away, and smoaked continually; it must be cleansed by reason of such showers, and still wipe away that which is falling, for which you must be stored with clean linnen.

Moreover these bands must be carefully handled, more than any bands you are to look to, therefore do not spoil the first band with binding, for it is better to bind it slack, than too hard, and it is better likewise to apply not too many splinters, so it is also with the plaisters, so be sparing here is better than to be lavish. In a word, pains in Wounds are sooner increased than diminished with too many splinters, plaisters, clothes,

clothes, &c. then the band holdeth so fast, that you can hardly get it off; but if any of these be wanting, they may be supplied at any time, but if you exceeded in the former, you cannot mend that fault without putting the Patient into great pains; therefore let enough vent, and room as much as you may,

How perplexed was I many times in studying out the best way to dress such Fractures? sometimes I made holes into the splinters; sometimes I joyned two together, and so cut one proper piece out of it; sometimes I laid two, one by the other, and yet left room enough to come to the Wound; and if hollow ones were fitting, I applied them, but I made all serve so, that I left the band untoucht and unaltered. Sometimes such cases I had, which way to dress the Wound conveniently I knew not; and when I saw it could be no otherwise, but that the band must be undrest, I let it pass for that time, thinking when the Patient and I am otherwise minded, then things should be better considered of, and that which was defective for the present, I mended at the next dressing.

For the which I could quote many examples, how I was called out of my sleep, finding many help and useless people about the Patient, and neither measuring nor fitting the true length or breadth of the splinters, I did my best, as well as I could, but this was my great comfort, I had room to let the green Ointment run into the Wound between the splinters, and afterward the Wound ointment, and was not sparing of it, and made it come into all places, and where I could not come to the Wound, I let some dayes pass, in the interim supplied it with the Salve and Ointment; then I took it off, and cut the splinters either shorter or narrower, yet not stirring nor moving the Fracture.

Now I have shewed unto you in brief, that if a Fracture, by reason of some obstructions, cannot be dressed as it ought, what you are to do. For a Flap-wound is not like another ordinary Fracture; for though it be set well together and even, as much as possible it may, yet will it not stand and keep so firmly one upon another as ordinary Fractures will; because their skin being whole, it soppner clingeth to, doth not rot or

Flap-fractures.

fester away, but clingeth freely to the other. But Flap-fractures, if much broken, and some splinters being broken out, they fester and yeild much corruption, and fall quite away, though the bones thereof be set as well as can be, yet will they not keep together, and the flesh of it festereth away, whereas in other Fractures the flesh comes to good, and holdeth firmly. Therefore in such Flap-fractures you must suffer more flesh to grow than in any other Wound, and must be more cleansed than any other Wound. For the marrow also in such Fractures turns to matter, and runs out at the Wound, here flesh must be made grow to fill up that place, which will not be done in a long time. This may happen also to an ordinary Fracture, however that flesh which hangeth at the panicle and streaks, which also hangs on the bones, sooner takes hold on the bone, than that flesh which is but growing like a new twig.

Courteous Reader, I will propound you a true example, with all the circumstances to the full. I had once a Patient, whose Leg was pulled off by a roap, by his treading in the roap; which quickly parted it, at which time was drawn up a Beech-tree, which fell on this Mans Leg, between the Ankle and the Knee, and broke such a long Wound, that I startled at it when I saw it; for the Leg was off, hanging onely on a little piece, and I wondered much, how any life could be left in it; I saw no help for him, being farre from people in a Farmers house, and that happened in a Winters night, where I had no accommodation, and could not dress him as he ought; I cut off the bruised, broken and torn flesh, veins and muscles with sheers, for it was broken so much, that it looked like out-worn fringes, and was very black. I dressed him as well as I could, and laid him down in the best manner the place would afford, and had small hopes of his Foot, for I was afraid it would fall off every moment. I let him lie, being he was not much pained, neither was there any swelling, I put a great deal of Ointment into it, I cleansed it in the best manner I could, and when I dressed him, then I thought, now the Foot falls off, because the danger was so great. But God gave a blessing, his Foot kept on; when I came to dress him

him at the fifteenth day , I was desirous to see how the Leg & Foot did look, after I cleansed him carefully, I saw that the torn flesh and veins were separated and purged, but the Fracture and the bones I disliked in their posture. I took his Foot and turned it to the Knee-ward, and viewed the bones to see where they hung yet, and so I set his bones now together, as if the Fracture had been done newly; then I found a dried beech leaf in the bone, which I took out, and cleansed the Fracture as well as I could, and made ready a band for him, with splinters and other necessary things, and so I dressed him.

This notable example, courteous Reader, I quote for no other end, but that Surgeons should not make too much haste for cutting off of desperate Members, before the Wound and Fracture be fully cleansed,

I intreat you not to cut off Members, though they be crushed and shattered in pieces, much less such that are wounded lame; for I have seen things grow on again beyond any mans expectation. Therefore be careful, and be not too rash in cutting off of Members: For my self have cured Legs, Feet, Arms, with Gods blessing, which ordinary Surgeons had condemned to be cut off, which were kept on through my help; I do not speak here beyond exceptions; for I also have cut off Fingers, Nails, Toes, Legs and Arms; I speak onely of that great hasty rashness, when they fall on cutting at first, where at the tenth dressing it should be forborn, as long as the Member is not quite separated, nor the contused parts fall off still and stink; for it will not alwayes continue in that stink (for the like I told you at the healing of sinews, where the like stink ensueth.)

Surgeons are many times blinded, that when they come to cut into a Member, they find somewhat which looks fresh enough; and seeing there is some lively thing there, then surely there is more there than they could imagine.

But when neither hope, nor advice, nor any Medicine availeth, then I can say nothing against their dismembring: Because my self have cut off neglected rotten Members, which were past all cures.

But

But I never dealt so upon fresh Wounds or Fractures, nor that at the first binding, but onely when such bands were putrified and quite rotted off. There is a difference between fresh and rotten bands, and each requireth a due remedy. But to cut off a band, which to day, or two or three dayes ago was dressed, that is no putrified flesh, but a Member contused, or a part that had a hurt by a fall or cut; but if such a Wound had been of half a yeers standing, it may be held then for a putrified ulceration; and whether it lasted a longer or shorter time, yet is it never reckoned among the first bands, for then is it already fallen to putrefaction unto matter, and not to separation unto healing. For eight or twelve dayes are enough for a cleansing, yet these things are considered of, according as the condition of the Fracture is. Therefore do not stand upon a two or three dayes band, but rather wait till ten dayes be past at the least, before you fall to the cutting off of any part, which yet hangeth firmly, though some part of the skin separateth. For as soon as, it begins to raise and to separate then there is hope that more of the contused part will remain. Therefore be not too hasty in cutting off such a Joynt, which is of great use to the party, be it a cut, a blow, a contusion, a burning, or a thorn, or any other way inflicted. Consider first very well, whether it may not be time enough, after three, five, or more dayes, to take the section in hand, for all roting sinews and veins do make a stink; but when it can be no otherwise, then I cannot say against it, for my self did so. Sometimes such contused sinews and veins cause such a stink, by reason of a cold and hot fire that is therein, then separateth the putrified flesh from the sound, in such a manner, that it is to be admired.

If you come a Fracture which is not quite broken off, do not you take it off with your griping, groaping and seeking, but let it alone till you have sufficiently viewed; if you seek not in it, it will swell the less, and fit it self better for healing, nor the shattered pieces will prick the flesh afresh, nor the branches of the bone will break off or come atwhart. Try not whether it be yet strong enough, unless you be sure that it will be no hurt to the party. Let the party lie still day and
night

night till you cleanse and dress him; use no Corrosives to the Wound for to cleanse it withal, it cleanseth it self enough through the Wound-ointment, and casts forth that which should be cast out; if you corrode it, you nip of the agglutination, and the bones turn to a blackness, and will hardly agglue again. Let him have a dry swearing Bath to cleanse him, and let him not come the whole year into a water Bath.

If the Fracture hath lain a long time, and you would set it up-right, and the Wound on the Flap-fracture is not yet healed, then is it dangerous to do it, especially if the Fracture is on the Thigh, for there no bones grow together, only a flesh betwixt the ends, and is just as glue is betwixt two boards to hold them fast together, so that flesh holds the two ends of the bone together, for that reason is it called Horse-flesh, because it is harder then other flesh, and is softer than a Cartilage, and is very like the gums about the Teeth, and that Horse-flesh holds the bones together one on another. Therefore if such a party hath lain long, and many wait for his being set up-right, however do not you venture too soon to set him on his Leg (especially if the Fracture is on the Thigh) unless the Wound of the Flap-fracture be well healed; if not, then is it a sign, that the flesh about the Fracture is not grown together nor healed; for when that is healed, then the skin about the Wound healeth and closeth. The Ointment must alwayes run well into the Wound of the Flap-fracture, that the flesh may grow from within, for on every part of the bone there groweth flesh in the place where the marrow was, and is filled up with Horse-flesh.

Therefore the common saying is, that a broken bone after it is healed holds stronger than it did before the Fracture, by reason of that hard flesh, which is very tough. That party which proveth well in flesh about the body and the eyes, it is a sign that his Fracture also will heal the sooner.

I have cured such parties, who were strong in their going and standing, feeling no weakness about the Fracture, but when they happened to fall sick within that years time; either of a Head-ach, or a Feaver, Ague, or such like, then about the Fracture

Fracture they felt also a weakness, because the flesh of their bodies decaying, the flesh also about the Fracture decayeth.

I desist from rehearsing any examples, because Experience brings in enough daily. Therefore if the Wound of the Fracture be not quite healed and closed, then I hold it to be not stiffe and strong enough to bear; therefore be warned, because I know where such faults have been committed; though the Fracture were reasonably well cured, so that no complaint was about that, yet afterward complaints were made, because the Patient was set too soon upon his Leg, and made too soon use of it, either by carrying too much, and putting his strength too soon to the work, causing a relapse to himself, and a re-fracture to his bone; the Surgeon is not in fault here, but the party must bear the blame.

Though you are assured enough of the healing and his setting him upright, yet if the party would not be willing to bear two splinters about him, yet let him have one splinter about the Flap-fracture after healing, for if any chance befalls him, it will appear in that place first.

This needs not to be done to an Arm fracture, neither the Fractures below the Knee need to wear splinters so long a time as those on the Thigh must, because the great and small bones of the Leg help to bear one another, and in the Thigh there is but one bone, which will not hold together so well if once broken.

There are some, who by all means would have Fractures salved and annointed, and will not beleive the Patient can be healed, unless he be so annointed and salved; but you are to forbear, and be afraid of such dawblings. When a tenderness is incident to a bone, then you may annoint the party, if of growing years, being above twelve, and under twenty years, in their bones is a shortness and smalness, and that holdeth not long neither. And this makes me, to bring in a Comparifon of two twigs of a Tree, the one was bowed and nibbled by beasts, the other was not, the nibbled one could not prove so well as that which was not nibbled. So it is with the bones in young growing people when they are wounded,

wounded, the hurt bone stands still, or is somewhat hindered in its growing, but the sound bone groweth mainly, and so the one is not like the other in the growth, and that must be mended with Medicaments that warm and rarifie the blood, that it overtake in growing that, it last in the still standing, and be equal with the other.

I had a party in cure, whose Feet grew unequal, and the one Leg also was longer than the other; here I was perplexed, not because the Leg I cured consumed away, but rather that the other out grew it, which had a greater supply of pure and thin blood than the other, which was under cure, and hindered in its growing, by the posture the Leg lay in, and the wounded sinews, and the ill setting of the bone. To further the growing of this short Leg I did thus; after the Fracture was healed, I rubbed and stroaked the inside of the Leg, and going to annoint it, I applied a band where the Fracture was, or else I had one that held that place strongly; then I annointed the Leg very well above and below the Fracture, alwayes warming my hands; I never toucht the Leg with cold hands, warming also the bands and plaisters, and let the Leg hang down, when I annointed it, I did not gripe the Leg hard, but the skin I stroaked freely. More of this shall be said in the Chapter which handleth of exiccated Members.

I intend now to speak of swelled Fractures, which are healed, yet are still thick and gross, and that one Joynt and Member is as heavy as two in the going or standing, which thickness I took away without causing any pain. I had several such swelled Members, which amaze the beholder, yet the Lord gave a blessing to their healing, but some signs were left behind.

The reason why I speak now of swelled Members is, because formerly I have written of exiccated Members, these being contraries, that Surgeons may take notice how to help these symptoms, for that which is good for the one is nought for the other, and a wet Bath is nought for both, but in other things contraries are used; viz. if you have in hand a withered and up-dried Member, you must stroak it downwards,

Of swelled
Members
and Joynts.

and a swelled Member you must stroak upward at the dressing. If in an Arm or Leg a humour remained, and is not a swelling caused by some ulceration of a wounded and lamed part, be it of a fall or a blow, be the cause what it will, either itch, small pox, imbroidered clothes, hard and long labour, or a long down-hanging of the Member, or an ulcerated Fracture, or a great scabbedness redness, dropsie, &c. of all these I do not speak, but of a humour of the body, where there is neither redness, anger, nor water. Here you may judge if you be judicious, of what humour I do speak. Such means must not be used, spoken of formerly, for swelled Members, whereby the Patients Member would easily be mortified, and death ensues upon. Look well and consider what swellings are spoken of here, all sorts of swellings are not yet related, as among the rest, the swellings of lamed Members, which have neither spots, nor biles, or holes, such may be dressed in the manner spoken of, and bound not so hard as the first. Such symptoms are incident to Knees, Elbows, Shoulders, Ankles, but seldom to other places.

When the bones are gone out. Lastly, If a Flap-fracture be so great, that whole pieces of the Leg come out, you must not therefore cut off that Member, as many would do, but set the bones right again one upon another, and let Nature provide for the rest. These bones will grow together again, but the Member groweth shorter.

I could quote many examples serving to that purpose; where the two bones of the Leg were taken out some fingers breadth, which were set again from below upward, and were healed successfully, but the Leg fell as much shorter as those pieces were long that came out.

CHAP. XXVII.

Of Arm-fractures above and below the Elbow, how these ought to be dress'd and healed.

IF a patient hath a broken Arm above or below the Elbow, set him on a strong stool, tie his sound Arm to the stool, or let him be held strongly by that Arm, that he may not interrupt you in your work, and do it well at first, that you may have no disgrace afterward, and the patient be put to further misery, for if his Arm be not well set at first, afterward you will hardly do it, and the Joynt will be pained a long time, which at first was not well set, therefore presently stretch the dislocated Arm, and set it well one upon another, and having well set it, then have good help about ye, especially when you have in hand any great Fracture in Arms or Legs. For the greater the Fracture is, the stronger help you must have, and one body alone is not sufficient, unless your Patient be hearty and willing to endure; when you are about to dress him, let him lay his Arm on a cushion in his lap, in the mean while be you ready with your plaisters, splinters, bolsters, roulers, needle and threed, and stitch-plaisters, as you heard above. To an in-bowed Member you need but two splinters, the one to lie to the bowing, to keep in that raising or callusity, and the other must lie opposite to it, to be helpful to that which lieth on the bowing, for one alone will not keep it down sufficiently. But if the Fracture be great, and on a strong Joynt and Member, then you must use four splinters, which will be the safest way, for splinters will hardly be so broad as to keep the roulers off from in-printing, and when four splinters are laid, then the bands or roulers cannot come so nigh to it; on that splinter which lieth on the raised place or bulk lay another smaller splinter, it will hold the stronger, and spread a little of the Fracture salve to it, that it may not slide away, for if you lay two splinters one upon another, the one must be broader than the other, to keep that raised part the better in, and will slide off the less. Have a care

you do not bind it too hard, nor too slack ; the hard binding is dangerous and destructive to the Member , causing an inflammation and dying, and a slack binding is hurtful also, but not so much as the other, causing a crookedness in the healing, when the band yeildeth, and the Fracture begins to raise or to slide, though that raising may be helped , but not so well as when it had been done well at first ; the Patient must lie very quiet , neither stirring or turning much, be the Fracture in the Arm or Leg.

Though I speak here of in-bowed Members, think not that I mean onely such, for hereby you have further information for all other Fractures , be they broken in what manner they will, for an in-bowed Joynt or bone requireth as much toil, as if it were quite broken : there is a very small difference between a Fracture and an in-bowed bone ; a Fracture requireth care, that it stir not and go asunder, but an in-bowed bone if once pressed or turned right will keep so, but so doth not a Fracture, especially that above the Elbow and that on the Thigh, that striveth alwayes to get out again, for these bones commonly are somewhat crooked naturally, that is the reason why it doth not keep its standing, and that bone is in some straighter than in others.

Now if you can set right an in-bowed bone, much more may you do it in a Fracture ; an in-bowed bone well set, keeps the place, but a plain Fracture hath more wayes to get out again : I have seen also, that in the looking to it I was put to more trouble then I had at the first setting it right: it is not so with in-bowed bones , for that doth not go out any side, unless you force it such a way in the turning of it. Therefore do not over do it, make it not worse , as such an oversight rudely may be committed , where a Fracture is put out of its place, which would have kept together. There is great advantage here, both in the work and pains in the healing and growing.

Briefly, the cure is half done , if a Fracture set keeps together, for if once struck asunder, then the splinters and teeth break, and the bones also break unequally, because they break not so, as when they are sawed and cut asunder, but at their breaking

breaking they tear into many splinters, and many times can hardly be brought together again. And if any of these splinters cometh atwhart, the same is a hinderance unto healing, bringing an unevenness in the going and standing, disgracing the whole work.

That branch or splinter which is in a cross way, puzzleth Surgeons, that they know not where the defect is, and if so be they know it to be a splinter, but how will they turn it? my advise is, if the Fracture be not quite asunder, let it keep so, that with meddling with it you may not cause one splinter or other, for to fall a twhart; I cannot give warning enough here, because the dangers are great in such cases, which I have known and felt.

CHAP. XXVIII.

Of Fractures that are cloven and burst, how a Surgeon is to deal with them in their dressing and healing.

HAVING spoken enough of Flap-fractures, now it follows Split Fractures. that I speak also of Fractures cloven and burst. I call this a split or gaping Fracture, when a bone is split and burst either with a thrust, blow, fall, or how as it may be done in any way; which split or cleft is not a plain Fracture, but onely a rent, crack, like a crack in a glass, which to say is yet whole for all the crack.

If any come to you, complaining of a bone which is a little swelled, and paineth him when he toucheth it, or when he treadeth hard on that Foot, it betokeneth that that Leg is cracked. You are to apply the before named Fracture-plaister and the splinters, as you heard before, and so let the party lie still for some dayes; that plaister will draw out the moisture which is in the Legs, and the patient will quickly be healed.

To know a cracked Fracture.

But if it be of a high swelling and feebleth soft, it is a sign, that a moisture is gathered there from the blood and

bone. Lance that place, make vent for that humour, put a tent into the place covered with the little brown ointment, and dress it as a Flap-fracture, it will soon mend.

Abuse.

Here I must needs speak of some abuses, which many have committed. When they are about to cure such Patients, and undertake to do it, then they will perform it with annointing, bathing, washing, and such like. But it is seldom seen, that it is to any purpose. Yea (which is a pity) they cause such hurts thereby that can never be cured. That hurt, which is caused thereby, is called by some Surgeons, Marrow-wounds, the original whereof to describe here is needless.

Marrow hurts.

Cracked bones not presently felt.

If a bone be cracked, it may be the party doth slight it for the present, especially if the bone be crackt all along, it will hardly cause any pains to the party in a twelve moneths time: if such a crack be so subtil, that it is not felt in so long a time, however the marrow in that bone hath vent.

Now as Nature in man cannot endure any Fracture, be it as little as it will, but it will complain of it one time or other; that crack in the bone will bring forth its excrement, I confess it is very little, yet in time it will come to some matter, which settleth to the lower part of the bone toward the Ankle, and the crack also in the mean time goes on by degrees, because its own excrements stay there, and are not expelled through Medicaments. That moisture being gathered to any quantity, it will seek for an issue in the end, and causeth a symptom, which commonly at the first appearance is like to Anthonies fire with a blister upon.

Such things admit afterward no healing in that place where they are, because their fountain and original is not there. For many times one hurts himself on the Shin, and that hurt breaks forth at the Ankle, because the humour settleth down. Such hurts being healed will break out again, not regarding the skin, and will not be mended neither with diet nor purges, then they call it a Belly-flux, which is none at all.

Cracks are no Belly-flux.

I have cured such symptoms of twelve or fifteen years standing, which by all Surgeons that had them in hand were counted Belly-fluxes, whereas they had no other original but

But what was told. It falls out, that in such cases many Patients are spoiled, because Surgeons undertaking to cure such hurts, know not their original, which is the chiefest thing here. But how these shall be known well, and fundamentally cured, you will find it in its due place, when I shall treat of all manner of symptoms.

Here is a necessary Quæry: How can any man go about his work with a cracked Arm, and how can a party stand or go whose Leg is cracked?

To which I answer: Yes, it may be, which I know not by hear say alone, but have seen it: Mr. *Jurian* of *Wiesen* an expert Surgeon found it so in himself; he had a Fracture on his Leg, but went about a long time, till at last he was fain to yeild, and in his down-lying he often conferred with me about it, telling me, that he marvelled, that he could stand and go about so long having a cracked Leg. From hence I infer, that a party may have a cracked Arm or Leg, yet for all that he may follow his occasion, but in what manner it is, he knoweth it best that hath the Fracture; and it may be, that such parties are limping. Some Fractures are such, that the party is not able to tread on that Foot, though the whole house should be on fire. Fractures are not all alike, break not alike, and their healing is not done one manner of way.

The reason why some can do their work and go about is in my judgement, because in the fore part of the Arm are two bones, as also on the Leg, if onely one of these bones be crackt, the other holds strong yet, and so the party doth his work, though in pains; but it is another thing with the bone above the Knee and above the Elbow; and so there is a difference in such cracks.

Of cracked bones, what they are; some examples quoted.

These are called crackt Fractures which are not apparent, it is not unknown what such parties ail, they complain, and know why, and ignorant Surgeons having them in hand, neglect them so long, till the hurt breaketh out, and counting it ignorantly to be a Belly-flux or humour, in the upshot they

call it a Sprain. Of these I quote some examples, that you may know what I do call a crackt Fracture, and what the condition of it is.

1. A Maid coming homeward loaden with bought Wares, fell on a stone in the street, after she rose she went on her way, though with pain, and coming home she annoiated the place to disperse the bloud, and this annointing she continued for half a year, at last it broke out with great pain and stink, it was held to be a humour of the body, which they dawbed with Plaisters for a whole year, but it would not come to any healing.

This Maid was brought to me, perceiving the cause of it, I desired her to let me open it, there I found a Fracture with a cut, and the bone began to be scaled and black, I took it out, cleansed the sore, and cured it as a cracked bone, and she was healed.

2. A Maid gathering Apples under a tree, taking up a load of them on her head, going along she stept into a hole, broke her shin in pieces; she sate down, staying for her Father to lead or carry her home; her Father coming, chid her, bidding her to rise, telling her, that some vein or other she did sprain; she went on that Fracture some hundred paces, and made it thereby worse and worse, at last she could not tread upon it: I was sent for, I told, that her bone was broke, I was laughed at, they saying, it were not possible a body should tread on it if the bone were broken, much less to go so farre as she did after her fall. Their beleif was brought to experience upon their own peril. For the bones went asunder, and the Fracture began to grow too big for her to endure, and for me to heal.

3. A Man servant carrying a bundle of grasse, perceived he cracked his Leg, yet he went on, and in pains he carried home the grasse with much ado. This fellows Fracture was of so great difficulty to be set and healed, as ever I had any, for when I lanced it, it was found to be enough for one Fracture.

4. A young man taking down from a Horse a sack of salt broke his bone, for all that he went about for some dayes, but

but at last the bones broken appeared in good earnest, many Surgeons had him in cure before I came to him, and it proved a real Fracture, which at first it would not be taken to be one.

5. A Barber riding along, came among Horses which fought among themselves, by their kicking his Leg was broken, he felt it well enough that it was so, but he knew not whether it was broken in two; lighting from his Horse he went into his house, and in his going it was not seen by the boot whether he was hurt or no, the boot being pulled off, he tried whether he could go, but could not, for the two bones of the Leg were beaten in pieces; I had to do enough to cure them, and were healed without limping.

6. A Girl carrying a basket full of chips, and stepping over a block heard her bone give a snap, she flings in the chips at the door, sits down on the next block, but her Parents being hard to her, made her go for all that, this Fracture was lanced afterward, and was long under the cure.

7. A Servant had a Fracture, which I judged to be a lame one, I was laughed at, because I called it a Fracture, but it was past laughing, when I took out the bone from the gartering place to the Ankle. For those Surgeons which saw him, thought it a thing impossible, that he should be able to go when his bone was in pieces, and many agreed with these Surgeons it was so. But the Patient said, my bone is broken; I presently opened the place, opened the flesh to the bone, which was black, because the marrow prest thorough the Fracture, but he was healed, could leap and jump without halting at all.

Many more examples I could quote, but forbear it, and rather tell the cause why any one can go for all his bone be broken *viz.* if a bone be broken so, that the Fracture hath branches and splinters, these hold the bones still together, because it stands together yet and beareth up the Patient; as when ones bone be not well healed, he goeth but in pains and with much ado, more than one whose bone is but broke lately.

A Servant broke the bone next to the hand, complained much, his Mistress applied to it Vinegar and Bran; I coming to dress the old Womans Sore on her Leg, I looked on the Lad, knew what he ailed, but would say nothing for fear they should give me the lie; the Lad complained more and more, at last I was fild to see what he ailed; I told, that the Medicine applied could do no good, for the Lads Arm is broken, and it was so as I said, and the Lad had no rest, and it was worse with him every day; then my words were found true. The Lads Hand being grown crooked, then they gave leave that he should be dressd. I set his bone right, dressd him, he felt ease, and his Hands swelling was allayed.

How cracked Fractures may be learned, or discerned, in old and young Folke.

If you have a Patient, whose Arm or Leg is red, accompanied with a swelling, and the redness doth not alwayes appear at first, but after, when it beginneth to swell, and will break out; if such a thing appeareth, then ask the Patient how long that sign was there, if he can tell, then you may the better discern the hurt, but if he cannot tell, either by reason of his young age, not able to speak being a Child, then feel it hard, and try whether you feel any unevenness, or any thing broken; ask again, where he doth feel any pain, if he be able to answer you. But if a Child, take notice where it shrinketh at if toucht, whether there be a hollownes, or a bump, or any other crookedness, and at the feeling of the place take notice whether it doth stir, if you find it to do so, and giveth a snap, or you can feel the hollownes, or it yeilds to bowing, then is it surely a Fracture; and if it should not yeild to bowing, and yet the other signs are at hand, which you felt with your hands, then is it surely a crack, which holdeth stiffly yet, and the party can stand upon it, and go, and can work, and no body could think that he ailed any thing.

Signs of, a
crack-fracture.

In case you are not yet sure by feeling, bowing, &c. then take notice of the Patients words, whether he heard any thing crack

crack or snap, and what work he had done : whether it came by a jump, lift, fall, thrust, blow, or slipping into a pit, or by striding over ditches, or climbing up the Ladder, or hurting himself against the bedsted. For I had Patients which broke their Arms by turning in their beds, and proved plain Fractures, apparent to the eye and feeling.

It happened, that at *Neslin Glaris* I was to see a Boy to know what ailed him, no body knew, but I conceived what it might be, though I knew not the manner of it, I held it to come either from a blow, fall, &c. But the Boy and the rest said it was grown so, but I said, it was a hurt, be it done what time it would. I intending to be gone, his Nurse said to the Boy, I remember you fell from the chest, when you were ramping with another Boy, and after that you complained. Then he confessed, saying, I remember it, for ever since I felt my self every day worse.

From hence we gather, that Surgeons must not easily be misled, though they say no hurt beset the Child, it came of it self! For Servants will conceal things, when they let a Child fall, or other ways hurt it by their carelessness : but when I felt the crack or swelling, then they put it off, saying, it was done at night in their bed, to shun their Masters displeasure; nay, Children themselves will conceal the true causes of their hurts, for fear of offending their Parents. And some Parents are superstitious; supposing their Children are bewitched, when they see their healing doth not come off soon enough.

Of a festered Nail, which foolishly is called the sleeping Worm, what it is properly.

This Sore had several names put upon it, because it was known but to few; some call it a Worm, of which opinion I am, for such a sore may very well deserve such a name, because it feeds like a Worm every day more and more, and grows bigger, because the marrow that prest thorough the bone cannot be reduced to its own place again, from whence

it once came, it searcheth further, and presseth so far, that it must needs break out thorough the skin. It is called a Worm, because it gnaweth, panteth and pulleth, continually pricking, causeth miserable pains before it comes to a ripeness, and before the flesh putrifieth and dyeth. Sometimes it falls out to the loss of that Joynt. He that had such a Sore knoweth what to say of it. In my Judgement it is a gnawing Worm, and not a sleeping one, as some put that name upon it, because it doth cause no sleep to the party, but keeps him awakened in pain and torments. It is called also the not-named, or (a whats you call) an unknown Sore, no body knows what it is. Seeing it is unknown, never had its true name put upon it, then let it have its name, and say, this sore Finger is a cracked Fracture, and it is so indeed, let others say of it what they please, I found it to be so. And this Sore hath its original from thence; if a Finger hath received wrong, and the foremost bone is hurt, then in time that naturall moisture desireth to get out by that little rent (for as soon as a bone is cracked then it falls out so) betwixt the bone and the flesh, which covereth that bone, and is tough and strong like a tendon, where the fatness lieth, and being it is removed from its place, needs must it begin to putrifie and break through the flesh: then pain and misery groweth on, the bone inflameth and festereth. From thence it comes into the flesh, then sorrows begins, and the Joynt must be taken off, if on the Toe, the Foot may be lamed, if the sinew or joynt water comes to it, which is clear and yellow, causing more danger; if that Sore goeth further, a whole Member, Hand or Foot may be lost, or a whole Arm, if not death follows altogether. I have seen a Hand cut off, by reason of such a cracked Fracture, which being opened and searched; the cause was found of all that mischief. Hence we gather, how from small Sores great symptoms may arise, which indeed may well be called the not-named (or what's ye call it) because their first cause or original is unknown.

Of a crackt Fracture on the Shin.

If there be a crack on the Shin, it falls out that that crack inclineth to fester, which maketh a hollownes that begins in time to be moist; a hollownes being made, the moisture soaketh lower; if so, then is the cause worse; for though you should open that Sore where that matter is, and you would heal it, you will miss your aim do what ye can: My advice is, to open such a thing before the matter be settled to any place, because that moisture breaks not forth so easily as it doth in any other Sore, for it is a meer water, and hardly turns to matter.

For when you open that hurt at the place where the Fracture is, then you may the easier come at it, then if you open it at a further distance from the crack, and that crack will heal the sooner, the nearer it be opened to the Fracture; and in case you were to take out any bones, were it not fitter there to do it there then at a further distance? how shall the broken or loose bones get out, if thus neglected and let alone till festered? And the bones that are desirous to get out are commonly black, stand seldom loose, but hold fast, and must be forced out with an incision Knife or other Instrument: in case you will stay the bones leisure to get out of its own accord, there is no way for them but by putrifaction, if so, then you may look for many of them; it will prove a tedious cure and to no purpose; for scarrs, short Members, haltings, crooked bodies, &c. yea, a perpetual sign it will leave behind. Three or four Fractures thus opened are sooner cured than one which is not opened, which I have seen several times.

A Quotation of notable examples of Sprains and small Bone-fractures, which turned to great Sores.

Out of these following examples the Reader may see, how such things might be prevented before they turn unto such symptoms.

symptoms. About the year 1540. the whole Company of Surgeons at *Zurich* hath been baffled and put to a non-plus by Sprains and small cracked bones, some whereof I will rehearse, that were under cure a whole twelve moneths, some six moneths; some two years, some more, some less, before they came to my hands, these must be a warning to Novices in Surgery. Some of the Patients may be a witness this present year 1563. what toil and moil, what pains they were put to, how their Members were cut off, others condemned to be cut off. Why? By reason of a Sprain, a small hurt or fall, which brought some to a lameness, some to a most painful halting, and those were glad which came off with an ordinary or easie limping.

1. A Taylors Widdow sprain'd her Foot, after she had been plaistered and dawbed with Salves a long time, the Surgeons resolved twice at a meeting to saw the Foot off; but at last with much ado she was cured, and her Foot saved.

2. A Mason sprain'd his Leg coming down a Ladder, who lay a long time under Surgeons hands; who in the end condemned his Leg to be sawed off; no help for it, though many forrain Surgeons were called to it.

3. I had two Brothers at *Knenon* in cure, whose black bones I digged out with much ado, the one was perfectly cured, but the other not so well, however he went his wayes: all this came from a Sprain.

4. The Millers Daughter at *Cloten* sprain'd her Foot, and was a long time under the Surgeons hands; but she was so well dawbed, that the bone putrified and grew black; then was she brought to me, I cut to the bone, and cured her, that she was able to go about her business again.

5. One had a fall from a Ladder, and had some hurt on his Leg, he did lie a long time under Surgeons hands before he was brought to me, never had I a more difficult cure in hand, his Leg could not be saved, but off it was cut, and his life paid for it.

6. A Servant going about some business, he heard his

Leg

Leg give a snap, which he slighted for the present, and went many dayes about, but into the Surgeons hands he fell, where being salved a while, at last he was brought to me also : Some told me what he ailed , but I found what it was ; his bone from the gartering to the ankle, I opened it, and then drest him, and cured him, so that he went his way without the fore bone of his Leg: this broken bone, though it made no shew that it was broken, however it was so, and the party endured pains enough before he could be cured.

7. In *Einsidle at Shobachlin* , one at the taking up a load of grafs heard his Leg give a snap, and went on it for a while for all that, but his bone putrified, as the rest of the quoted examples did, in the presence of his Parents I opened it, they saw that it was putrified, and I cured it.

8. A Woman at *Geroltswill* going down some where, sprain'd her Leg, it was swelled as much as ever I saw any : I opened it, an abundance of corruption came out of it, after some dayes she was cured with much ado , the bone was not black, all kept together, no shatterings nor splinters in it. Her life was much feared ; all this came from a small crack, I should have hardly beleived it, that such a small crack should cause so much mischief, and a Woman to undergo so much misery as she did, for she let it run on a long time before she sought for help, still hoping an amendment.

9. A Servant at *Swartzenbach* jumping from a higher dunghil to a lower sprain'd his Leg, which he at first regarded not, but it brought him to the feeling of it at last ; and being a long time under Surgeons, at last was brought to me, I drest him in the manner of a Fracture, his bone was not yet grown black, he was healed.

10. A Girl at *Horgen* carried on such a crack a long while, which at last broke up, and was cured with much ado : I took out many small splinters, and drest her as Fractures usually are drest, and healed it in the way of a Flap-fracture.

11. A Servant at *Horgerberg* got a crack, and went about with it a long time, at last his bone did raise and putrified,
and

and a great stink was in it. He being put to my trust, I opened his bone, viewing it I found the Fracture, and digged out with Instruments the rotten bones in the best way I could, and afterward I dressed him after the manner of a Flap-fracture, and the fellow was healed, his Leg was saved from being cut off, but he went halting after he was healed: his Leg was sentenced by the most Surgeons to be cut off.

These hurts named before, came all at first from a Sprain, by falling, by stepping into a hole unawares, or by lifting of things, or stretchings and throwings: it is hardly beleived, that from such small things such great mischiefs should arise; its strange a man should hurt himself in a slight manner, and to turn to a Fracture, which at the beginning appeared to be no such matter. But when I opened and viewed such hurts, then I perceived, that if they had been dressed at the beginning like a single crack, then it would not have turned to any greater inconvenience without causing any further pain and trouble.

Of certain directions, opening or incisions, dressings and healings of splitted bones.

If any one is brought unto you which complaineth of a cracked bone, you need not to let it trouble you much, unless it be, that the hurt was carried on a long time, and the crack begin to raise, and to swell, and break out; of these hath been spoken enough above, and you may be satisfied with it.

But if such hurts be yet fresh and unswelled, then I call them fresh cracked Fractures, because they are lately done, and are swelled a little, these may easily be remedied, and you may do thus: make this following plaister to be applied to the Leg.

A plaister
for a crack-
ed bone,

℞. Rosin ℥ 1. Wax ʒ 1. Turpentine ʒ 2. Colophonia ʒ 1. Myrrh ʒ 1. Walwort ʒ ʒ. make a plaister of it. This plaister must not quite close the Leg, there must some space be left naked; or you may dress him with the red plaister as a little

little Fracture ; if it be on the Leg , then the Patient must forbear to stand or to go ; if on the Arm , he must spare that also so long till he recover the strength thereof ; and though it be healed , yet the plaister he ought to keep on still for a while ; if the Fracture be stiffe and strong yet , then you need not to prop it with splinters ; but if the Fracture stirreth , then use two splinters as you see occasion. In case the bone stands yet firm , then hold it together onely with a good plaister , which must be broader than the Fracture , it will hold it more strongly than if your plaister be applied sparingly , and put a good rouler about it , let it lie so eight dayes , well tied together with the rouler , but not too hard , that the hurt be not endammaged. This must be understood of the fore part of the Arm toward the Hand , and the neather part of the Leg below the Knee.

That part of the Arm above the Elbow , and the thick part above the Knee , must not be dealt so withal , neither must you apply any splinter to it , because there is but one bone in that place , which sooner is stirred than the other bones below the Elbow or the Knee , of the which there are two , a bigger and a lesser. The bone above the Knee or Elbow requireth better looking unto , not onely because it is onely one bone , but also because it must endure more in lifting , going , standing , glimming , carrying , than the other fore bones.

One may object : Doth not the fore part bear up the hind part ?

Experience sheweth the contrary , that the upper part must be stronger than the fore part , Labourers and Foot-posts know it ; besides , one bone is sooner stirred and removed , then two standing and up-bearing one another , and that one is fuller of Marrow , and is of a greater largeness , stands more hollow , and is sooner removed by reason of that hollownes.

Therefore do not slight that upper part , though it be neither crackt nor dislocated , or not felt , for it is dangerous enough , if painful in the touch.

Look you do not neglect it, but bind and dress it as well as you can. Apply a splinter above or at the uppermost part, if you do not, then you will have work enough for your self and for the Patient. You apply here the splinters not as upon another Fracture, but onely one, or at the most two splinters are to be used, and a doubled plaister, it holds as stiffe as an armour. Let it lie so applied ten or twelve dayes, pull it well together with a rouler, it will endure a hard binding, more than that part below the Elbow or the Knee, for on those parts a too hard binding may cause a deadness to the Foot or Hand, by reason of the muscles and sinews, which is not feared on the Thigh, or on the Arm above the Elbow.

Therefore do not bind it too hard, especially if your Patient is farre from you, and you cannot come soon to him; if it be a Child, whose Muscles and sinews are not strong and cannot complain of it, as aged people may observe, and have the more care of it, be the Fracture what it will, either rent or crack, at the dressing and undressing; especially have a care to the Marrow, that it do not press thorough, that it come not to stand between the bone and the flesh, and cause no blackness to the bone, and the Marrow do not break thorough to a swelling, and turn to a Fistula; for such a thing will be most like a Fistula, being full of holes here and there; all these may be caused by a crack of a bone, the marrow of the bone pressing thorough, turning to a swelling, is scattered up and down: Such examples I have seen many; unto which a belly flux is incident, or humours gather that way from the body, which increaseth the disease of the Patient, whereof in the end he miserably dieth.

If I know a bone to be broken, and the marrow of it is hardly to be dispersed or driven back, then I do not dress it as a Fracture, but make an incision, like to a Flap-fracture, in the place where the Fracture and redness is, and dress it round like a Fracture-wound, and laid a splinter to the place where no redness was, held him quiet so long till the Fracture was sore, and was fiery, appearing like a swelling, and coming to maturity,

maturity, I drest him then to the bone very carefully, and left the band so, that the marrow might not press thorough and sink downward. It laid a long time before it came to any corruption: I applied a plaister to the raised red place, like a Diachylon, guarding it round, that it could not press thorough, but onely in that place where it should break.

How ever I advise no man to do so; at the dressing of such a one, have a care that the plaister go not quite round the Leg, and let your roulers be big and strong, for if you suffer the place to raise and swell, the whole Joynt will be exulcerated and inflamed, and if you let it swell of its own accord, the whole Member will swell. And bind it not too hard; if it hath no vent at all, nor the plaister yeilds, then you must fear a suffocation of the Member, and the Patients health lies at stake.

Here I must tell ye, that some patients will not have they should be touched with any Iron, but rather will lie longer by, than be hastily cured.

If you intend to make use of a Lenitive, apply it gently and bind it slack, *viz.* a Diachylon, or a Melilot Plaister, or any such like to keep the sore from further ulceration; when it maketh shew to break, let it have time enough, and open it not too hastily, for the sinew water is commonly at hand, and runs forth, not like corruption, but like blood and water, which is a good sign; if a white matter comes forth, then is it a sign of putrefaction and separation of the bone; if blood and water comes out of it, then there is no putrefaction, such a party must be kept in a band, like as a Flap-fracture is kept, which must not stir, it will be softer at the swelling then it would at an ulceration. Therefore drest that party like as a Flap-fracture is drest and apply a fresh Fracture-plaister, and leave an open place, that he may be drest twice or thrice a day, let the corruption not run under the plaister to make it stink. When the Fracture is opened the Member unswells, if the matter runs out, then the band will slacken, and the splinters will hold no more, and then you must renew your bands, and the splinters set right again.

Leave room for the red place which inclineth to ulceration, let the place not be covered with the plaister, that you may come at it when you intend to dress him ; do not bind that place , least you drive the matter back with the Lenitive you apply to ; and in case you should bind that place hard, you must fear that corruption will seek for another way to break thorough ; if you make an incision, then do it in that place where the Patient is most pained, for under that place the Fracture lieth hid ; take notice of the sign where it is, strike with your finger up and down, to see whether you can feel any crack, stirring or crookedness, hollowness or raising, if you find none of these , then take notice of these tokens, *viz.* the pains when the place is touched, is hard and red, and a raising is there , and the Patient complaineth that it is in a continual rage , and there is no where any swelling but in that place ; for if there be a swelling in any other place besides that, then is it a sign, that the bone and panicle is putrified and eaten thorough, if these three signs be together (the redness being the chiefest) and they may be felt with the finger , then is it certain, that there is a crack of the bone there and no where else ; and here you are sure of the token where you must open it. And that you may not loose again that place, then mark it with a small coal, or chalk, or oaker, or with a drop of oyl. At this time bind him not with roulers, tapes or fillettings, before you be provided with the Lancer, and a Plaister to apply it to the hole , Tents, Ointments, Sponge, Water, Cisers and Spatule, &c. make first two or three Tents one bigger than the other, to have your choice.

Being provided thus with necessaries, then take a long rouler and bind his Leg or Arm, &c. cross way, cover not with the rouler the marked raising , pull the rouler strongly together, pressing down the veins and sinews, that the red marked place may raise the better ; make that place raise high where you intend to make the incision , then you may be sure that the matter will disperse it self no whether else, and your incision will be made the surer , you need not fear to hit an unright place , nor the patient shrink under you ; the incision will

will cause no great pain if bound hard, which would not be so if tied slack.

I tied many times on the roulers two fillettins, one above, the other below, fearing the marrow would slip away. Be not timorous in the incision, because there is no danger in it, neither in the bleeding in case you should hit a vein. For when I hit a vein in such a case, I let it bleed but a little and stopped it again, neither is it any small advantage, for it maketh good breathing to the Patient, the Leg groweth the lighter, and the pains are lessened. Sometimes such an incision cannot be made without the hitting of a vein, especially below the Knee, unless the veins be rotten, having no blood but matter in them.

I speak of such, where neither corruption nor ulceration is, but of fresh skin and flesh, and where a redness is apparent; you must make the incision upon the redness, if you will open it right, else the incision will be in vain.

When I held the Patient thus, and marked the highest place of the redness, then I took a strong Lancet, laid it on close to the place where it held hard against, thrusting it deeply into the crack, turning the Lancet a little in my hand, that the incision should fall the bigger till to the Fracture or crack; if you do not so, then the incision will soon close, no other, as when a hole is made with a bodkin into a four doubled cloath, where hardly a tent may be thrust into; therefore have a care that the incision close not, let it bleed well; having done bleeding, then apply to it Cotton wool or Mullipuffe on the tent, with a clinging plaister; you may allay the bleeding with a wet Sponge; if you think the panicle is not cut thorough, then make a strong tent well turned, cover it with a sharp Unguent, thrust it in, that the panicle may be toucht with it, that tent will make vent enough, you need not to apply any Corrosive, and it will heal like a fresh Wound. Sometimes thinking that I had not hit it right, yet I took a board tent, which might best go into the Wound, and covered it with *Egyptiacum*, straying some burnt Allom upon it to keep open the incision and to make it wider; if you do
so,

so, then you cause no long continuing pains, it keeps open the Wound if you put it in loose.

Having given him a little rest, and no blood comes out, not so much as to stain the cloath, then you may dress him with a Fracture band, leave the Wound open, that you may come at it without any stirring, like a thorough Fracture or Flap-fracture. Dress him so as is said, then you need not so many plaisters, roulers, nor splinters, nor so much toils. That Wound must not be so scoured, as usually they deal with a Flap-fracture, onely let the Wound have vent, and let it stand free. Apply the Plaister to it, that no air get into, and prevent putrefaction therein, that it run not betwixt the band; the Patient must not lie still as he doth at a Flap-fracture, neither ought he to stay so long at it; if you can dress well such a cracked bone, it will be a great advantage to you in dressing other Flap-fractures, and will be a great help unto you.

Some usefull and remarkable Rules, comprehending briefly all necessities belonging to cracked bones.

Let no ulceration come into a cracked bone, as much as possible you may, else the Patient will be endangered.

Keep it open not too long, let it close as fast as it can, and use in four dayes not any tents.

Do not press it too hard, that you hurt not the new flesh, and make it not fall off, else the flesh is hindered.

Use no Corrosive where there is no need, which would make the bone black, which cannot brook with any corroding things.

Use no swelling Tents, they for the most part are hurtful here.

Search not with the little Instrument for any splinters; if you do so, you make the bone rugged and shattered, which healeth unwillingly.

Keep

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Keep out the air, that you make not black the white bone ;
for the air that falls on such bones maketh them black, which
proveth incurable.

Make a small Wound, and not a large or wide one.

Make the incision the long way along the Leg, holding
the Knife not the thwart way.

Thus I close this part of the cures of all sorts of Wounds,
and Fractures, and Cracks.

Finis of the second Part.

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Plus of the second Part



The Third Part.

Of the Symptoms of Wounds, how they are discerned and known before they appear, what they foretel, how to prevent them, and how to cure them when apparent: &c.



Ourteous Reader, hitherto I have shewed to you plainly what I have found in my practick part; how you are to cure all sorts of Wounds from the Head to the extreamest parts, the severall fractures and confusions also; hoping you will not begrudge your pains, if you have followed the rule of my instructions. You must take these things into serious consideration, and be not wanting in your carefulness and industrie, because all particulars cannot be set down in writing.

In this third Part, I will Inform you in the best and most ^{Knowledge} faithful way of Symptoms, befalling the wounded, and the ^{of Symptoms} wounds, which is one of the chiefest points belonging to ^{is necessary.} is necessary. Surgerie; for without the knowledge of Symptoms in wounds little good can be effected, nay irrecoverable hurts are caused if Surgeons are ignorant of them, as woful experience testifieth. And in my opinion those are no Surgeons which have no judgement in these Symptoms: for wounds healed, not according to the fundamentals of the Art, fall out accidentally, which good luck old women may have also, and some Matrones there are found which would be too hard

hard for such Surgeons. These I count for good Surgeons, which have a sound judgement not of Symptoms that are at hand already, but such that discern by infallible signes there coming : for these Symptoms have alwayes there forerunners, which foretell of their coming. There is nere a raine without clouds, thundrings and lightnings accompany each other, and great cold bringeth frost. Man is taken from earth, and hath the qualities of earth about him. Earth is the mother of all fruits, yet hath it many miscreance : of the same condition is Man, for which cause Antiquity put the title of Microcosme upon him. For Man being wounded, is no more in his right tunc, is like a mother of all diseases, which before there breaking in, appear in some tokens, which tokens a Surgeon ought to know, if he intends to do good and get credit. It deserveth more praise to prevent an enemies invasion, and is sooner opposed then, then when his armie is come into a land to be expel'd. A Surgeon hath the more cause to be knowing in such Symptoms, because there is such a variety of them, which to rehearse is impossible. If men in health are subject unto Symptoms, what shall we say of wounded men ? there are some held for found, in whom many infirmities lie hid; who being wounded fall into the wounds, causing some fistula's, cankers, or the like ; which without a true process are hardly cured well, and Surgeons may easily be deceived herein, if not well expert in those wayes. Situations of dwelling places either further or hinder such Symptoms, foggy places are not so wholesome, as those of a clear and pure aire. And the same cause it is with the yeares seasons ; as also the weapons are of different natures, whereby a wound is made ; some are poysonous, others are not, the former cause more dangerous Symptoms than the latter, and one part of the body is more subject unto Symptoms than the other ; and so are men also according to their severall complexions. Some patients cause Symptoms upon themselves with their disorderly course of life ; from thence severall Symptoms within and without are caused, which a good Surgeon ought to know, else he will have but ill success in his curing of wounds.

These

These have been the stronger motive unto me, to write of the Symptoms in wounds, because that knowledge lyeth hid deeply, whose names scarcely are known; whose true knowledge is very necessary; without which little good can be done: of these I will speak in brief, and plainly, however fundamentally and really, not having borrowed it from others, but as I found them true experimentally: my intention is to write of mine own, and leave others to their opinion, and it is fit every bird should wear his own feathers. Setting other things aside I come to the things themselves.

CHAP. I.

Of the Signes in general, whereby Symptoms are duly discerned.

Courteous Reader, before I come to speak in particular of Symptoms, I will first rehearse some tokens in general, whereby Symptoms may be known: hoping you will be thereby enabled to conceive the better of them, if you hear every Symptoms signe described in particular.

He that is wounded at the Dura & pia Mater, looketh horrible: when he beginneth to draw his mouth together, then it is a signe that there is a cramp in the wound: but if he stareth with his eyes, it is a signe of an Apoplexie, and of death: if none of these signes are present, and the patient is hot, and his face is red, it signifieth a Feaver, or a disease of the wound is like to befall him. But if all the said signes be at hand, then nothing so sure as death. But if the patient is besides these in a rage and furie, then is he in a worse condition: again if the patient looks pale in his face, and is still and quiet then is he in the better condition. If a patient still thinks that some body gapeth into his wound, after he is drest, it signifieth a Cramp, unless the Surgeon have put too much of the resigne, which runneth like Turpentine, or any other Gum of that nature, whereby he causeth that pulling or griping.

Signes of a wounded Brain.

Wound of the scafe.

A pulling wound.

A burning wound. If a wound be in a flame when dress'd, it signifieth that a sharp humor is fa'n into it, which eateth of the flesh already healed; unless the Surgeon have put too many hot hearbs to his Salve, or hath put to it too much of Mastick, or gum Sarcocolla.

A wound sensible of weathers. If a wound swelleth on the outer member, and paineth the patient very much at the changing of the weather, it signifieth a withering and consuming of the member, delay no time to help it, for if you should stay till the wound be healed, afterward you will hardly bring that hurt to right. A true Surgeon must understand and know aforehand, and help before the hurt be done; let him make use of exiccat-ing medicaments.

Swellings without pain. If there be a swelling in an outward joint or member, near the wound, and is yet hard, and doth not pain the party, and that wound healeth together from within, then is it a sign that the medicaments are nought, and will do no good; though the wound be not unto lameness, yet in this manner it will be made lame, if the Surgeon goeth on in his applied medicines: if he perceiveth it, then let him take better medicine: *Viz.* Of *Storax*, *Gum Opopanax*, &c. This Symptome befalls a joint-wound, when stitched, and afterward a poultesse applied to it.

Signe of a Fistula. If a wound swelleth on an outward member, and doth not pain the party when touch'd, and closeth, and the more it closeth the more it swelleth, it is a sign that a fistula groweth on: if it pricketh much being felt and toucht, it signifieth that a splinter of the bone would faine get out; but if it doth not prick, and seemeth to the patient as if he were toucht with an Iron, it is a sign that a piece of an affthrust-ed bloud-vein would faine get out, and the Surgeon ought to make vent: but in case the swelling paineth the party sometimes, and at other times it doth not, at one time it is red, at another it is pale, it is a sign that a Cancer will come into the wound: if it doth gnaw a little and doth prick when it is not toucht, and looks brown-red, then is it a sign there is a Cancer in it already.

Signe of a Cancer. A wound that yeilded much matter at first, and the party being

being well, but afterward the wound begins to water, (I Water in a do not speak here of the joint water) it is a sure sign that wound. either a Cancer or a Fistula is coming; but if the patient groweth daily weaker, it signifieth death.

If a wound inclineth to heal very fast, and yet the party groweth daily weaker, it is a sure sign of death: such wounds ^{Hasty heal-} are commonly purple-brown, shrink commonly, and it is ^{ings of} wounds. an unnatural healing.

When wounded men are continually in a fright, it is an ill sign, if a tucking pulling be accompanied with it, it is a sign that a wound-disease is coming; and if any redness be ^{Frights in} joined with it, it is a sign that the wound-disease is already ^{patients.} at the door. If suddain pains come into a wound, and go- ^{Wound-} eth away suddainly, and the party can after it not stir the ^{disease:} joint, it signifieth that the Palsie is come into: of that joint ^{Suddain} you may say that it will keep lame, if no worse thing come ^{pains.} unto, which is to be feared.

If a Joint wound swelleth, and the joint water runs strong- ^{Joint water} ly, and the more, the more it swelleth; it is a sign that the ^{join'd with} Surgeons medicines are not proper for it: therefore let him a swelling. use better, in case he intends not to spoil the joint quite and by too much running it cost the patients life; let him learn to make better Salves than he hath in his Dispensatory.

If a party be wounded on a joint, and complaineth of pains on the extreame part of that joint, as being wounded ^{Pains in a} in the arm, and his pains are worse in the finger than in the ^{wound.} wound it self: then is it a sign that the member will dye, and that the cold fire is coming into: then is it high time to ^{Cold fire} prevent that evil, and do not neglect the patient.

A wound made into the body, and prickings are in the side, signifieth death, if so be the wound is in that place.

A wound made into the hollow of the body, and is at a stand in healing, signifieth death; but if a wound be at such ^{A wound} a stand on an outward member, and the wound waters a ^{at a stand;} little, it signifieth Cancer, Prunella, Inflammation, Wound-disease, or death if they be not prevented: it may be that some imparity was in the wound Ointments and Balsoms,

Cough a
sign of con-
gealed
blood.

which set the healing backward, for such flovens are found, which care not whether their medicines be made clean or no; and that fault is committed in medicaments that are both for inward and outward use. If a cough is incident, which is not caused by the lungs, it is a sign of congealed blood in the body, if he brings up any blood with his cough, then is it the surer sign of it; but if that blood brought up by coughing is red and fresh, then is it a sign that a blood vein is wounded, which is still a bleeding.

Stammer-
ing.

If a wounded party begins to stammer in his tongue, looks vastly, turns his eyes, is deaf, it signifieth madness and death: if he be snoring at the nostrils, knoweth no body, hath a great droughth, yet drinketh little, his sleep is gone, and still will be gone: all these are ill signes, and easily judged.

Collofities

If a hard knot or callus groweth on a wound, which is painful and increaseth, yet the wound healeth; it is a signe that the veins and sinewes which are there about, are dying and rotting, death ensueth upon: of such heavy examples I know too many, which have thus been neglected, and such collofities grown there must be looked to.

These few signes I hold forth to you, thereby to learn to discern other Symptoms: it is not possible to rehearse all, the defect hereof may be supplied in those that follow, for to discern such Symptoms.

CHAP. II.

Of the Sleep of a wounded party, what a Surgeon ought to judge of it.

REader, marvel not that I keep no method in describing of Symptoms; I took these Symptoms in hand to write of, as they fell out in my practick.

Touching Sleep; sound peoples sleep is not alike, some snore in their sleep, others without a noise, in these it matters not much: but it is another matter with those that are wounded, because Surgeons ought to take notice of such signes
in

in their patients sleep. If a patient puls in his sleep his wound- To judge
ed member, and is thereby awakned, it is a sign that the the signs by
Cramp or Wound disease is coming: but if he is frightned the sleep.
in his sleep, and awakneth of it, if his wound be in the head,
a Cramp or Palsie ensueth upon.

If a wounded party awakneth, knoweth not where he is
and talks idely, it is a sign that he is in a great heat, which
soon will cause a disease in the wound.

A head wound which suffereth nor the party to sleep, ac-
companied with a heat, it signifieth a mortal Symptome: in
such a case phlebotomy is very needfull, if he cannot sleep
after that, then death ensueth.

A patient that sleepeth much, and is idle withal in his
sleep, is hot in his body, yet sweats not, it is a sign that the
wound disease is predominant: for such there is no remedy,
and dyeth: but if he sweateh all the body over, then there
is better hopes of him, but if he sweateh onely on his brest,
it is a deadly sign.

If a patient lets go his stool in his sleep, it signifieth death.

A patient who at first is in a good posture unto healing,
but grows worse afterward, and looseth his sleep; it is a sign
of a mortal Symptome.

If a patients sleep be thick and short, but sweet, it is a
good sign; and if he be in a good temper, not too hot, and
his pulse beats orderly, it is a good sign, but where no such
signes are, there is it dangerous.

Touching medicines to cause sleep withall, when they are
good, and when not, you will find them in the Receipt de-
scribed of *Anodin*, or *Landannum*.

CHAP. III.

*Of pains in Wounds, what doth cause them, how judged, and
how remedied,*

PAins in wounds are natural, and in there cure they will ^{Paines in 3} wounds are
be caused one way or other, and pains will be felt as usual,
long

long as nature separateth the bad from the good, and is done, when the wound matters, thereby cleansing it self: pains caused in that way are of no consequent, in case the patient be not otherwise disturbed, and is kept in a good dyet: but it is another case when the wound brings not out the matter in due time, and the patient in his dyet, or by the Surgeons carelesness is neglected: out of such pains a Surgeon which is expert, will look to the circumstances must be considered; and for that reason I thought good to write one Chapter of it, to know from what the pain is caused, how it is to be judged, and to fit the remedy against it.

The patient
causeth
paines.

Here I will not speak of ordinary and natural pains, but of extraordinary ones, which are caused either by the patient, or by the Surgeon, or by both: A patient causeth pains to himself with disorderly eating and drinking, pretending they must have a recruit for their blood, some spoil themselves by eating of Cabbages, slimie Fish, Pork, &c. by four or strong Wine, stinking and sour Beer, &c. some by being too much in the Sun shine, or being too much in the Ayre, or stirring too much in Leachery, &c. whereby pains are caused in wounds, if not quite spoyled. A Surgeon cannot exactly judge of the causes thereof, nor to allay them, unless the patient be better governed in such wayes. The Surgeon ought to warn the patient of the danger which such disorders do breed, if he will take no warning then let him take what falls.

Surgeons in
fault.

Surgeons also may cause such unnatural pains: as first, with stitching with tents, by forcing them into Wounds, &c. of which you heard enough in the first part: and bad medicines also cause great pains, and by ill and rude dressings, wherein Surgeons should have great care to do things conveniently, such bad and improper medicaments should not be used at all.

Surgeons must be careful at the dressings of Wounds, because some medicines are sooner consumed by Wounds, than others: if a Wound be hastily drest, before the medicine hath done its work, then the Wound is robb'd of the medicines

cines good quality, and corruption is left in the wound beyond its time, which causeth pains to the wound, being over-burthened with the matter, and terrified by it. In case both the Patient and the Surgeon behaved themselves well; yet pains are still in the wound, then search into the cause thereof.

A Wound which brings not forth the matter duly, and more pains are caused thereby, it is a sign, that an inflammation, or Cold fire is coming, if he doth not prevent it. If a pain increaseth more and more in the Wound, yet it keeps its true colour, it signifieth some fault in the Wound: if the Wound be as deep, till to the bone (I speak of outward members) it is a sign, that some splinter doth not lye right, and a fracture happily is at hand; which the Surgeon ought to look well unto. If a pain stayeth in a Wound, after it is healed, it signifieth that that member will exiccate and wither: but if that part swelleth, it is a sign of a loose splinter of the bone: and if the swelling endures to be toucht, then there is a vein or sinew dying, whereby is caused a Gangrene or Fistula.

Pains in a head Wound, which is healed, signifie that a splinter will be loose: but if it endures the touching, it signifieth an inward Imposthume, or there lyeth a splinter on the *Pia Mater* of the brain.

Suddain and shooting pains accompanied with chilnes, ^{Sooting pains.} signifie the Wound-disease: and if the pains are more above or below the Wound, than in it, it intimateth no good, commonly a Gangrene or Fistula is coming: and if such a pain encreaseth dayly, it signifies that the medicines applyed were not proper: if you do not prevent it, the Cold fire will come into.

A Wound that looks well to the eye, and no great defect seen, yet the Patient at the several dressings groweth weaker, it intimates the naughtiness of the medicine.

A party wounded in the head, and the Temple veins are full, and feeleth pricking in them, it is a sign that the Patient is kept too warm. Such parties usually are kept in a Cellular. <sup>Temples
that prick.</sup>

A wounded party having shootings and prickings in the Wound, is full of heat on a suddain, and by and by it ceaseth, especially at the change of the weather, it intimateth that a humor will settle into the wound: the Surgeon must learn to what disease the Patient is usually inclining, to oppose that with proper medicaments.

Pulls in the
Wound.

If a Patient feels on a suddain a pulling in his wound, it intimateth that a Cramp will get into. If a Wound is full of pricks, and a Pleurisie appeareth, it signifieth death. A party being usually pain'd and prickt, or a Patient is eased, yet is not as he should be, it intimaneth a coming Wound-disease, or rather death, unless these pains be taken off through medicaments.

These are the Signs, I thought good to inform you of, more could have been quoted: but hoping you will judge by these of the rest, I let it so rest, and onely one more I will tell you: In case there be pains in a Wound, where the veins, sinews, tendons, &c. are wounded, to remedy these, proceed in the following manner. A sinew wounded onely, is more pained, than if quite cut asunder: Reasons of it are known, if you find that there is great pain in a Wound, by reason of the wounded white veins, then in the first place, apply a defensive Plaister (of the which you shall find more in the Book of decoctions, or of coockery) and put into the Wound red oyl of Terpentine, or distilled oyl of Bayes or of Tyles, for these hot oyles asswage the pain in the sinews, are pleasing to them, and cold things are hurtful unto them: and the said oyles are very penetrative with their heat: when ye put any of the said oyles into the Wound, then dip a linnen piece of cloth in it, lie it to the wound, and apply upon it a stiptick plaister. The pain being asswaged, and you will dresse the Wound again, then let the brown wound oyntment run into, and you may mingle a drop or two of the said oyles with it, the pain will the sooner cease, and you fear the less the Joynt water.

A good
Unguent.

I will teach you here to make a Wound Unguent, which is good to take away not onely the pains of the sinews, but is good also against the Cramp and other things. & the clear

clear and sweet oyl of Amber, distilled with water 3 ℥ distilled oyl of Bayes 3 ℥, of unguentum *dialthea* 3 4 mingle these use in and about the Wound, and annoint the whole joynt and member with it and you will get credit by it. If there be great pains in the wound, and the joint water runneth also, then proceed in that cure, as you heard in the Chapter, touching the joint water.

Lastly note also, that when a Patient is vehemently pained in his Wound, and the pains will not cease, and the Patient be not troubled with any other disease, then minister unto him in Wine or Water the conserve *Anodynum*, from 6. to 8. or 9. grains, and so let the Patient rest: in his sleep all pains will cease, be they never so vehement: and let the Wound nevertheless be dressed according to Art. Thus much of pains in Wounds: he that knowes more and better waies, it is free for him to do well for the publick good, and not hide his Candle under a Bushel.

CHAP. IV.

Of the Corruption in Wounds, and what may be gathered from thence.

Corruption is the excrement of Wounds: every wound mattereth, and desireth to make a separation of that which is destroyed, and to clear the impure from the pure, and to cast away that which is nought, that the good part may not be infected and hindred. Nature beginning thus to work then appeareth the matter.

Corruption comes partly from the Wound, which striveth to cleanse it self, partly from the medicine, and the food, used to the Wound, and the matter is ordered that way: for a Wound if onely cleansed, and nothing else used to it, it will afford some matter, which mans natural Balsam casts forth at the Wound, which striveth to heal it: if a proper medicine be used, pleasant to the Balsam, then the Wound is fed by that medicine, casting away the excrement

What Corruption is.

From whence it comes?

ment thereof, and is strengthened thereby the better to attain unto a healing.

Good Medicine makes good Matter. Therefore if a proper medicine be applied to the Wound, then it casts forth the matter the better, in such a manner as it ought to be. But if the medicine be contrary unto the natural Balsam, then the wound cannot digest it well, and the matter also comes short in its form and sent: if so, then that medicine is nought, and a better is to be applied: for the matter is altered according to the medicines goodness. Therefore learn to know the Matter, that you may be sure whether its form be from the wound or no, or from any other Symptom, or whether the medicine causeth it to be of such a shape.

A twofold Matter.

Surgeons ought to know, that every wound affords Matter, be it much or little, and the one Matter doth not look like the other. Flesh and blood have their singular matter: the white veins have their proper matter: and another matter affords the bones: the same must be understood also of the internal members. Bones at there healing yeild a white slime and somewhat thick: but if they are not in a right tune, they give a clear water, without any smell, and looks greasie; which is seen by the linnen that are put into. White veins afford a clear water, somewhat tuff and slimie: but if they be out of order, then the water runs out yellowish abundantly, and tuff like the white of an Egg, or raw indigested blood.

Flesh affords its matter somewhat thick, white gray, or of a carnation colour, with its due sent, and willingly separateth from the wound.

Full and cloddy matter.

If the matter be tuff, clinging to the Wound, and must be forcibly taken off, and is cloddy, it is a sign that the body decayeth in strength.

And when there appeare any streaks therein, it intimateth that the sinevvs are going, all hastneth toward death. And if the original be not toucht and found, there is neither help nor hope for to recover such a party.

If the matter be tuff, sticking to the wound, then is the wound in no good case, and inclineth to turn to another Symp-

Symptome , as to a Gangrene, Cancer, Fistula, and the like.

If the matter be thin, looks white like milk, it signifieth naughty blood, and the marrow in the bone is consumed: Thin matter, if this matter comes in any quantity, then it is yet joint water, and intimateth a terrible Symptom, like to a palsie, unto which you must look well, that the wound be kept dry, and no greasiness come into; else it will befall you as you heard about the wounds in the back bone.

If there be but little matter, the wound sinks, and turns blew, and hastily shutteth, it signifieth death, no help for it. Little matter.

But if the matter be thick and yellow, runs abundantly out of the wound if onely squeezed a little; it intimateth a great hollownes: and if that wound be bone-chatter'd, then it is a sign, that a loose bone would fain break out. If such a party come to your cure, then tarry not, but begin in time to cure it as a Fistula: if there be a small bone at hand, it will come out nere the sooner. That Patient must be put to the smallest, and not to the greatest cure. thick matter.

If a Wound that is soft, being squeezed, yeilds a foam or froth mingled with blood, it intimates a spongie flesh in the wound, and it will turn to a Fistula: therefore cure it as a Fistula; that soft flesh will soon settle to a better groundwork of the cure. A wound that beareth no matter, is at a stand, it intimates that an Inflammation is coming into, whose forerunner is Prunella. A froth in the wound.

Stinking corruption in wounds prognostick ill. Here the Surgeon must well know the matter, and to judge by the form, sent, colour, &c. how his Patient must be cured: Wound without matter.

Thus much of corruptions in wounds, more could be spoken of in that particular, shuning prolixity, I let it rest so: neither is it well possible to write more exactly of it: for every matters form is a working to the applyed medicine, every Surgeon useth his own medicines; which is the reason why these signes differ so much. The signes mentioned here, are set upon mine own Wound Ointments, stip-tick Plaisters: those that use other things, must find other signes. Stinking matter.

Surgeons ought to know their medicines, and observe their operations, chiefly how they appear in the making of the matter, then may they judge what medicines are good, and which are nought for the wounds they have in hand.

CHAP. V.

Of the Joint Water ; the difference of it : how to allay it.

Joint water is dangerous.

THE Symptoms of the Joint water are so well known, that I believe it a thing superfluous, that I should write of it. However considering that the Symptoms herein terrifie Surgeons more than all others, therefore I could not forbear. I have seen many which understand as little herein, as nothing, which occasioned so many abuses in surgery committed, at the stenching of the Joint water, against which many receipts were invented, even as if in surgery nothing were known of it.

Joint water is no gluten.

Note this about the Joint water, there is a moisture in joints, called by Surgeons a Gluten, because it maketh the joints slobberie, without which no joint is in its right tune : this moisture is but little in quantity. Some Surgeons suppose, that the joint water is that which lyeth in the joint : these are mistaken, and deceive others to their great damage. For sometimes there runs out of one wound more joint water, than there is of the Gluten in mans body : and when that Gluten hath done running in that joint, then that joint withereth, and is no more flexible. No art can restore that gluten, if once gone and lost. For the joint water, called *Synovia*, which usually runs out at the wound, is properly a moisture of sinews and veins, whereby every joint receiveth its strength, without which no joint can subsist. For if in a wound the sinews, tendons, muscles, &c. be hurt, then they let their moisture go, which runs out at the wound ; and is then called the joint water, and continueth running so long, till the sinew is fed by the digestion, then it begins by degrees to cease, and the wound inclineth unto healing.

What is joint water:

If a wound be hindred in its healing by the running of the joint water, because it was not drest with proper medice-ments; and the joint water getting its full course, it will bereave all the parts of the body of their natural moisture or radical humidity, and cause them to dye. For the joint water getting the predominancie, and runs too long, then that joint falls into an irrecoverable Consumption, whithereth quite away, as being wholly bereaved of its food. It happeneth some times, that the joint water is accompanied with a salt spirit, corroding the sinewes, bringing them into putrifaction, whereby great holes and pains are caused. I have met with such a party, who was hurt in his finger: his Surgeon could not allay the joint water, because the sinewes were corroded and eaten, whereby holes got into the hand, and from thence even to the elbow, pieces of putrified sinewes were taken out. This joint water his Surgeon could not stay, it run up into the arm farther, and came into the shoulder, the party dyed miserably of it. Here let Surgeons take notice, not to let so sleght by the joint water, and to stay it in time, how that may be done you shall hear.

the joint
water is
hurtful to
the whole
body.

Salt spirit
by the joint
water.

An expert Surgeon must not be terrified by the joint water, because it is the excrement of sinewes and white veins: let him endeavour to stay it with proper medicines, which if right and good, they will stay it within five dayes: and the running of it is chiefly caused by improper medicines applyed, and by the patients disorderly life.

Note, the joint water cannot be reduced to a corruption, which among ignorant Surgeons hath begotten that fowle abuse, which they commit in the staying of it, and is still in practise: for they suppose, that it can be stayed with exiccating things, therefore they used *Terra sigillata*, *Bolus*, *calsined Shells*, *bones of Pickrels*, *Egg shells*, of new hatched *Chickens*, *vinegar of Sloes*, &c. some(being taught by the Hangman) burnt *Cotten wool*, and thrust it thus burning into the wound, some use *Cantharides*; whereby they make it known, that they never knew what joint water meaneth: else they would never go so dreamingly about so weighty a matter. I must confess, that the manuell is of as great consequences as a-

ny

Examples.

ny Receipt may be. I reject none of the means, which they have learned; because the vehement course of the joint water requireth sometimes such hasty stenching. But if such wounds be drest in the way I told you of, the joint vvater needs not to be feared. To stay the joint water, you may best conceive by these examples in what manner it is done: A Carpenter hurt himself against a piece of Timber: I know not in what manner he was drest at first, the joint water run out abundantly at the wound, and about the wound many holes fell in, which the Barbar Surgeon drest alwaies with tents, and in his thinking he had done well. But the extraordinary pains grew so much on the patient, that he was fain to change his Surgeon. because he saw that things grew worse with him: and he sent for me, whom with good success upon Gods blessing I drest and cured thus. I warm'd my brown ointment, let it run into all the places of the wound, filled them up therewith: afterward I drest him vvith stiptick Plaister, after the manner of an Opodeldoch, that nothing may run out of the vvound, this I iterated three times a day: I kept the vvound vvarm also, and applied a defensive plaister. This continuing a vvhile, the joint vvater vvastayed; after that I vvvent to healing, and proceeded succesfully in the cure.

the brown
Ointment
a true Ma-
ster-piece.

Note this Master piece, accompanied vvith much advantage: if you think the depth of the vvound be such; that the bottom of it cannot be fill'd out every where vvith the ointment: then take my brown ointment, boyle it to such a spissitude, that you may make tents of it, shurst it to the bottom of the vvound, cover it vvell, that nothing of it get out again, apply a stiptick Plaister to it: the intrust tent vvill melt in the vvound, joyne vvith the joint vvater, repelling it back, and vvill stay it more than any other ointment made of greasie things: for the joint water being humid, receiveth not easily any greasie thing, but expels it vvithout any operation done. But that browvn ointment, made of *Vitriol* is not greasie, and easily unitech with the joint vvater: and being sharp, consumeth the tuffness in the humidity, and vvorketh more effectually.

This

This is the mean and plain way whereby I stay the joint water, making use of no other means, in case no other Symptomes came into, This is the reason, why I mentioned so often this brown Ointment to be used against the joint water, and other Symptomes. You shall hear more of it hereafter, when I come to describe how this brown Ointment is to be prepared.

CHAP. VI.

Of the false joint water: that is, when another humor is joined with the joint water, whereby many Surgeons are deceived.

THere is no disease of the body, which if a party be wounded, will make shew of, in the wound; this max- Wound-disease.
ime will not sink into many mens brains, let experience cry never so loud. By diseases the joint water or radical humor is falsified, when other humors are mingled with it, and are driven forth at the wound.

This deceiveth unexperienced Surgeons, maketh them misse in their cures. I have seen Surgeons, though they had good judgement in joint water, yet such incident humors put them to great perplexity.

The joint water comes from white veins or sinewes, and hath its colour, as it is known: if other sharp humors are joined with it, then it looseth its own colour, inclining to a whay-colour, and is tuff like the white of an Egg: sometimes it is of a muddy or flesh colour: sometimes it looks like oyle tinging the ravelings of linnen about the tents. Colour of joint-water, what it signifies.

It is known by experience, that the white colour of it brings the greatest danger, commonly causing a Palsie to that member, and the other humor joined with it hath its cause from the head. The red matter which holdeth longest here, intimateth a humor falling from the liver, milt, and reins. The yellow water, which causeth the greatest pains, comes from the yellow Jaundice, or from the gall.

Note the
cure of the
joint wa-
ter.

If a Surgeon is about the staying of such a joint water, and another humor be joined with it, it is hardly repelled or stayed, as long as these humors are joining with it. Therefore Surgeons must endeavour to prepare their medicines accordingly; that those humors coincident with the other may be taken away: suppose the humor come from the head, then the medicine must be Cephalical, and so with the rest must be proceeded.

white.

The manner of this cure is thus: If a humor accompanieth the joint water, which came from the head, then this subsequent remedy, I found to be best for the party. *Viz.* The fume of Storax Calamintha mingled with some Amber, which the party took down at his mouth going to bed, in a funible or pipe. This may be used two or three dayes, then look whether it do stay that white water, if not, then use it once more, to cleanse the head the better of that white humor; for that fume is very proper for the head: *item* other specifica proper for the head may be used. In the interim let the wound be dressed as it ought, with the Brown Ointment, wound Ointments, Siptick Plaisters, applyed in the manner of an Opodeldoch, or the Opodeldoch it self to be used. Let the Patients dyet be answerable to the heads infirmities. It is fit that a contrary vein to the wound be breathed, as the parties condition requireth. If the joint water runs of a ruddy colour, then use Diureticks, to open the obstructions of the Liver, and Milt, *Viz.* Annise, Fennel, Maidenhair, Tamarisks, winter Cherries, Plantain, Liverwort, &c. Of these you may make a drink for the Patient, and go on in the applying of external medicines, so long till this red colour is changed.

Red joint
water.

Yellow
joint water.

The yellow joint water burneth exceedingly, usually spoyleth the wound; and this is incident to such parties, that are subject or troubled with the yellow Jaundice, and is known by these signes. The parties looks yellowish in and about the Eyes, the Breast, where that disease begins and sends it further to other parts; and the party then feelleth some ease about the heart and stomach. Such a party must be speedily lookt to, before this hot humor eateth off the

the veins and sinews, and bring him unto death's door, if the party be not help, the wound will farre the worse. Therefore delay no time in diverting these humors, and expel them by stool. For these parties are good such things, which usually are ministred against the yellow Jaundice. Let the party obtaine from Wine, but he may drink Barly water, wherein are boiled Raisins, and Melons seed. Order him also right in his dyet, use no sour nor hot things, no Spice. Let him use much of Borage, Buglosse, Succory, Plantain, &c.

This ensuing purge also may be used. ℞ of the best Manna $\frac{3}{4}$ 3 of Rubarb $\frac{3}{4}$ 2 small beaten; of Raisins $\frac{3}{4}$ 2, of the best Prunes the number of twenty, of Rose water $\frac{3}{4}$ 1 lb. fresh well Water, and white Wine, ana lib. 1.

Boil these till the Prunes be enough, ad to it pulverised Cinnamon. The Patient is to eat every morning of these prunes the number of six, and of the liquor he is to take cochl. 4: it will purge him gently, and expell the sharp gall by stool.

This purge may be, will be too costly for poor people; let them take instead of Manna and Rubarb, of Polopodium $\frac{3}{4}$ 1 small chopr and beaten, and of Rhapontiek $\frac{3}{4}$ 3, and make the rest as you heard. These must be used, as long as these humors are apparent: these being gone, your medicaments are to cease also, else too much moisture will be drawn to the wound, which would prove obstructive unto the healing of it. Touching outward things to be used for the wound, apply the brown Ointment, Wound-ointments, stiptick Plaisters, &c. as you heard above, which are used so long as any of these Symptomes are apparent.

CHAP. VII.

Of congealed Blood within or without of the Body : Remedies for such Parties , though otherwise they are well.

THe things that I do write now , touching congealed Blood ; have been told by those which lived long before me , and found them very good for such purposes : to their large writings I direct the Reader. I have made use of them , and found them to do very well , and durst confide in them.

I mean not here congealed Blood which is in the head betwixt the scull and the skin; of these I have spoken enough above about Head-wounds.

I speak now of such congealed Blood , which lurketh about other places of the body, caused by a blow, push, fall, strain, &c.

There are two sorts of this Blood, inwardly such congealed Blood comes to the hollow body : outwardly it congealeth between the skin and flesh. Surgeons must be careful herein, to deal rationally ; for such parties come dayly to their hands , which by ignorant Surgeons are spoiled.

Congea-
led blood, is of
two sorts.

Blood in
the hollow
of the body.

Touching congealed Blood in the hollownes of the body. Note if it be there, then be sure that a Feaver will be caused, and a mortal Imposthumation. Therefore in the first place phlebotomize the party, observing the Patients condition, and the place. Jest not in these things, which concerne mans life; and advise with a good Physitian. Then use means, which are diuretick, diaphoretick, purgative and extenuating, that it may not turn to a Feaver, or mortal Imposthume, or Ulceration. To this purpose are commonly used, Rhubarb, Rhapontick, Maiden-hair, Fennel, and Annise seed, hearb and root, Parsley root : all manner of diureticals and aperitives of the liver, Here is used also Terra sigillata, Bole armoniack, Ocula cancorum, Sperma ceta, prepared red Corals, calcined Harts horn, &c. In such cases are used also some distilled waters, of Nightshade,

shade, Alkekengi, Cassia, &c. as Art and Experience shall supply you herein. There is Unguentum populeon, found in shops, which is very good against congealed Blood within the body, mornings and evenings ʒ 1 taken in Wine, or the like vehicle.

You may use also this following Pouder: *R* Sperma-
ta, ʒ ʒ, Mumia, Terra sigillata, Linch cakes, coales of
the wood of Tamarisk, ana ʒ ʒ, Polipodium the root of it,
ʒ 1: pulverise all these, minister ʒ 1 of it to the party
mornings, evenings, and at noons. This doubtless will dis-
perse and expel the congealed Blood. Powder.

You may observe, when ever you intend to disperse and
to expel congealed Blood within, then put a purgative in-
gredient among the rest, as Folia senæ, Rhubarb, Polipo-
die, &c. Above there was set down some pectoral poti-
ons, which may serve for this purpose also, if you please. Note.

Touching external congealed Blood caused by falls, Blood in
Wounds.
throws, blowes, &c. whereby the blood burst out of the
veins and lurketh between the flesh and skin, and appeareth
with blew streaks, in such cases my advice is this. Let the
party be phlebotomised instantly, where you think it fittest;
then apply a Plaister to the place where the blood appeared;
Viz. Emplastrum exiccans, of Terra sigillata, Bole Armo-
niack, Dragons blood, Cerufs, Pitch, Rosin, Amber,
Calmey, Sloe-moss, unripe sloes, buttons and leavs of Ro-
ses, Mirtles, &c. out of these make a Plaister, called a Dry-
er, and apply it in form of a Poultesse.

In this manner you may order your medicines, as you
think good, observing the conditions of the party and
place. I give you one instance: *R* Bole armoniack ʒ 3,
Chalk ʒ 1, evaporated exiccated juice of Sloes ʒ 1 pul-
verise these and boil them in strong Vinegar, ad to it some bea-
ten Walwort, and stir among it Oat meal or Millers dust
make it thick like a Poultesse, ad some oil of Mirtles
among it: the oil of Sloes were better: apply this Cata-
plasmic wet to the place affected.

I must needs speak of some abuse, which some Surgeons
commit in such cases using greasie things, to little purpose: Abuse.

take heed of snotty greasie Ointments, because in such cases no moist but exiccating things are to be used. For all sorts of Blood, which forsake their natural places, as veins turneth to water; and if there be no great quantity of such water-blood, it will be exiccated by natural applied medicines and quite expelled. But if you use much of greasie things, and many wet Cataplasmes, as some Surgeons usually do, it will not onely be to no purpose, but also cause perillous Symptomes: for such applied greasie wet Poultices force the congealed blood to turn unto corruption. What wil that prove but a dangerous Imposthumation, which after a long time in great pains breaks, if it falls out so well: sometimes it turns to a Fistula, or other Ulcer: yea sometimes such anger is caused, that death ensueth upon.

Thus much of this: one thing more I add: a pulverise Potion may be used here also, it will hasten the healing and ease the Patient the sooner.

CHAP. VIII.

Of Symptomes which are incident unto congealed Blood, to be expelled by inward means.

Things spoken of in the precedent Chapter, touching Congealed Blood, are to be understood thus: they concern such parties that find themselves well besides the trouble they are at of congealed blood. In our language I know not whether any sufficient information is extant touching this particular, and I think it not amiss to give some hints of it.

Congealed
blood in
the body.

If congealed Blood in the body be left there so long, till it turn into matter, then the aforesaid means will not help, as being too weak; Surgeons either out of carelessness, or out of ignorance let their Symptomes run on: If in the side, back, breast, or a vein be broken, be it about the milt, liver, or any other part; and that sprained or broken vein bled very much, but that blood doth not run into the belly,

belly, but sticks between flesh and skin, and is nearer to the inside than to the skin, and makes little shew at the outside, and may be nearer the liver or milt, however it is betwixt the flesh and the skin, and there it putrifieth and comes to ulceration: this will not be cured nor helped by purging, &c. Reader understand it thus: if nature be oppress'd by abundance of blood, or neglected by Surgeons, of these we intend not to speak. For nature is able to expel it of her own strength. The four outer parts of the body may be oppress'd with congealed blood, caused by a fall, throw, &c. if neglected or by Surgeons dawbing brought to ulceration: then the things spoken of in the precedent Chapter, avail nothing: therefore other medicaments must be had, of which I will give you a hint.

Note one thing, there is but one process, be the hurt from what cause it will, either from the superfluity of blood, or the Patients carelesness, or the neglect of the Surgeon. I will be orderly in my instruction, and tell you the best way how to help congealed blood in the body, which is turned into corruption: if the Imposthume be not absolutely within the body, but more to the outside, and that befalls the four outer parts of the body, either through the Patients or the Surgeons fault.

Then if that congealed blood begins to putrifie, it may be known by signes; the Patient wil feel it at his side, whether it will come to any Imposthume, & he may know it also by the matter he brings up, whether in clots and stinking: if so, then that congealed blood begins to putrifie.

Such a party must not be delayed, but speedily be taken into cure; for delays will make it run on to an Imposthume, which must break at last. If it comes to that, then the party is neglected, and the help will come too late: for Nature having once begun to cast up that matter, then she must be aided.

As I told you above, so I say still: when these foresaid signes are apparent, then the named remedies will avails nothing, because the Imposthumation is too sturdy for them, and goes on in growing. For putrified blood goeth slowly

slowly out of mans body, infecting other parts, as the lungs, liver, milt, &c. Besides a dangerous cough will be incident, which will breed mischief, therefore other means must be thought upon.

Tonching my medicine, I tell you thus; if congealed bloud be in the body, and that within the hollow of it, then use not Mercury, spoken of afterward; Diaphoreticks are to be used. But if the Wound was not into the hollow body, and none of the inward parts is hurt, then these things may be used which I will speak of. If the case be such, as was told now: then first make a gentle purging drink of sirup of Roses, to give the Patient two stools: the second day minister to him in 3 ss of succus Rosarum 5, 6, 7, or 8 grains of the following prepared Mercury, still regarding the Patients condition, and let him lye still: when it begins to work, let the patient take some spoonfuls of broth, and two hours after he may eat a broth into which two yolks of Eggs are beaten, afterward let him take his rest, and sweat upon.

Mercuries
operation.

This Mercury may safely be used: if it fumeth up but once, and that very gently, according as he meets with an object above in the body: but it purgeth bravely by stool, carrying away the congealed bloud and other filth, though it had been an Imposthume, it must go, with a gentle stirring, not so, as usually precipitated Mercury doth.

Phlebotomic

Diaphoretick.

If you are an Artist, you wil prepare this Mercury in my way: and you may prepare also somewhat of Antimony. But Vitrum Antimonij is nought here, by reason of its strong vomiting quality: I tell you without Chymical preparations congealed bloud will not be eradicated out of the body, if turn'd to an Imposthume. The next day after the ministrati^on of this purge, phlebotomize the party: provided, if the party cannot tell where his greatest pain lyeth, then breath the Median of the right arm, or open the Liver vein on the right arm: if the party complains of his left side, then open the Spleen vein on the left arm. This being done and the patient is not wel yet, as it falls out commonly, then take the precious red Balsam of Sulphur, (whose preparation

paration you find above in the Chapter of breast Wounds) four or five drops of it, and $\frac{3}{4}$ 1 of the Aquavitz described in Wound-diseases , mingle these, let the Patient drink it and sweat upon: This Diaphoretick may be used twice or thrice, once a day , and so long till the party be eased of his pains. Thus you will do much good.

Reader, this is the remedie I opposed such malignant and mortal Symptoms with. True I have seen other proceſs, with Pills, Portions, &c. whereby congealed blood is expelled: but these waies were to little purpose. I neither reject nor condemn the means others do use.

Mercury is thus prepared, R $\frac{3}{4}$ 1 of Mercury purged with salt and water , taking away all his blackness and impuritie; put it into a coated glass body, pour on it of Aquaſort $\frac{3}{4}$ 5, made of one part of Vitriol, and one part of Saltpeter: abstract the Aquaſort, and pour it again on the Mercury, which stay'd on the bottom, abstract it again, and iterate the abstracting the third time; then take the Mercury, which stay'd on the bottom (looks yellow like brass) grind it well on a marble, put it into a glass body, and pour on it of oyl of Vitriol $\frac{3}{4}$ 1, let these stand in a warm place for 24 hours, let the oyl of Vitriol evaporate in hot ashes , then the spirits of the Aquaſort, together with the oyl will evaporate, and the yellow Mercury will stay on the bottom; take it out, (that on the sides let alone,) grind it again, pour upon it good Aquavitz, that it stand two fingers breadth over it, let it stand in a warm place for two dayes and two nights, then cant of the Aquavitz cleanly, and pour fresh on it, let that also stand so long in a warm place, and then cant off that also, and when you have done so a third time, then is the Mercury prepared, and perfect in his operation. Thus much of congealed blood within the body, to be expelled by means used inwardly: now follows, how congealed blood is dispersed by outward means.

Of congealed Blood to be expelled and healed by outward Medicines.

IT hapneth sometimes that by a fall, throw, thrust, push, &c. congealed blood setteth to the side, or back, and turns to an Imposthume, which can neither by inward nor outward means be help'd. This may befall also external or outward parts, through carelesness of Surgeons, or the patients slighthearts, keeping it concealed, so long till the blood turns to corruption and causeth many pains. Let the case be as difficult as it wil, yet through Gods help we wil undertake to cure it. And first we wil speak of such blood, which is come to the outer parts.

Signes.

If a party be hurt either by a fall, thrust, push, &c. and the place be swelled a little, and is soft and paineth the party if toucht; it is a sign there is congealed blood under it, be the place of a yellow blew or any other colour: and if there be panting and beating in it, then you are the surer that it is so, as hath been said. Here you need not tarry till it come to corruption, as Surgeons usually do, toying much about the molifying of it. That place is to be launced instantly, and to be tented, the tent be covered with Unguentum *Egyptiacum*, and calcined Allum strained on it, apply to it a stick Plaister, and a defensive plaister upon: or else you may apply a fracture Plaister, to cover the whole place withal: in the middle of it, leave a hole of the bigness of the Wound at which place you apply a little Plaister, which you take off in time of dressing, without removing the great Plaister: if the tent stay'd a day and night in it, and at the taking out of it the matter wil soon make shew, and begin to run, the pains wil cease, and the swelling aswageth also, proceed in this way so long till all anger and swelling be gone, and the hollownes be filled up: this being done, leave off the tent, and heal the rest, as usually Wounds are healed: in the mean while inward medicaments, as *Vulnerarie* potions, must be used also.

Some

Some may wonder, that I bid such hurts to be launced, before they be ripe, or come to corruption. But he that understands the business, will easily concur with my saying. For what needs one to let it have time unto corruption; being it must come out, why not in time before it causeth greater troubles; for it will have a long while, before it can break through the skin, before it comes to do, to what pains and sorrows may it cause? as Feavers, Inflammation, and an anger joining with it, may suffocate the sinews, inflame the bones, and cause them to grow black, which may turn to Fistula, &c. they should the rather be launced, that it may turn to matter; for any blood, if it gets vent, will turn to corruption in one night: the which is seen in Wounds, where the blood in it turneth quickly to matter: so other congealed blood will the sooner turn to matter, if it once hath gotten air. Being it is so, why should it be kept lock'd up there to prolong pains: besides as you heard, it is sure, that the blood which is removed from its natural place, turneth to matter: why should it not be better then, to let that water run out of such places, and the hurt may the sooner be healed, to which rational men will condescend.

Objection
answered,

Reader, by these you may know, that lenitives are to be avoided here; *Viz.* Diachylon, or other Gums, and Caraplasmes; for all softning things are hurtful here: because these Symptomes are of another condition, then other putridified swellings: thus much of these, touching the outer parts.

But if Symptomes are incident to the side, belly, back, shoulder: with these you must proceed thus: here the Surgeon ought to take notice, whether after the fall, blow, &c. the place did swell four or five dayes after, and whether any pains be joined with it, as pantings, beatings, pullings, and whether the party can fetch his breath easily and without pains, and whether he feel any great heat; it matters not of what colour the hurted place be.

If that swelling doth pain the party being toucht, and looks ruddy, then launce the place with any instrument, do it undauntedly, doubtless you will hit the congealed blood, then

dress the party after launcing as you heard above, minister to the party good vulnerarie potions, then things will soon mend. Remember to phlebotomize the party on that side where the hurt is, let it bleed well, be it on the arm or legg, considering the condition of the patient and the place: in the rest you proceed, as you were informed about blood congealed.

Formerly I condemned Cataplasmes to be used, much more now do I forbid them. For there is no maturative of that vertue, as to do the feat here, to force the matter the sooner to eat thorough the skin, but rather will make the matter eat inward, and if it eateth through into the hollow body, then the party dyeth: and suppose that some recover in that kind, yet will they be unfit for work, and are crazy to their dying day.

I have seen many neglected in this kind: I quote onely two examples for to inform you the better: the one sheweth, how the party after launcing did well, and the other party, whose hurt was not launced, dyed miserably. Some years agoe a party was hurt by a Bull, which hurt grew worse every day, at last he fell bed rid: no purges, no phlebotomy, no diaphoretick would avail: on the out side there was little sign, onely the place the Bull pushed him at, was red, and a very little swelled: but he could not endure to be toucht: this past on three weeks: at last I being called with some others, we consulted and resolv'd to launce the place: which I performed, there run out above half a pint of matter, after that by Gods blessing he was cured.

Another party being a Gentleman had a fall with his horse, was shrewdly bruised on his left side; all manner of means were used but to no purpose: the party was much troubled with prickings and a cough, little sign was seen neither swelling nor redness, and where the blood should be gathered, it could not be discern'd, physicians, Surgeons, and my self also were called; some would have it launced, but the major vote, was for the negative, what hapned? the third day after the blood and matter come out at his mouth, and not long after he dyed.

CHAP. X.

Of bleeding Wounds : what it signifieth ; what Surgeons ought to do for it.

A Wound which was thought to be well , beginning to bleed , then the following signes are to be taken notice of. The Surgeon trying with his Seeker, finding some bleeding, in a small quantity, is not to be troubled much at it, because the sound flesh may by that searching be caused to bleed. But if the blood comes abundantly, then surely by that needles searching a blood vein is hurt and turn'd out of its place, which caused such vehement bleeding. But the wound not being hurt by that searching, yet bleedeth : it signifieth that some shatter'd splinter is loosened, which being desirous to get out, sticks in the new flesh, and makes it bleed : this is best known to be so, if the party toucht at the wound, is mightily prick't, and that blood be clear and fresh.

What the
bleeding in
wounds
meaneth.

The manual to be used herein is this, to keep open that wound with a small tent, which is to be covered with unguentum Egiptiacum, and to dresse that wound but once a day, so that that loose splinter may come nearer the mouth of the wound, and be pluckt out. And if it hangeth yet on a panicle, it must be let alone, till it loosneth of its own accord. In that intrim search not with the instrument in the wound, for fear that splinter be prest into a sinew, whereby great mischief would be caused.

What the
Surgeon
ought to do
in this case.

If a wound bleedeth abundantly, it is a sign, that a blood vein closing is opened again, in which case you must do thus. If the wound be yet wide open, then use an ordinary blood stench, and put into it dayly the wound Ointment, then it will soon overgrow with flesh, and be stench'd of its own accord. And in case there be any blood in the Wound, as it often hapneth, then that blood must not be wiped or washt out, which Surgeons ordinarily do, but leave it there, because that stoppeth the blood vein : and then the

wound

wound Ointment, and the stitch Plaister keeps off other hurtful things unto the Wound : and that bloud which stayeth in the wound, will soon come out in the ulcerating. But if the Wound be very narrow, then the case of it is otherwise : for if it be very narrow, then make a tent prepared with a corosive (that corosive is it which lyeth settled , in the bottom of unguentum Egiptiacum ,) and fill up the wound with it, so that no bloud may get out : this tent must not be put too deep into the wound, onely half way, leave it their for thirty hours, applying a Plaister to it. At the taking off the Plaister, the tent not sticking to the Plaister, and goeth out easily, then let it stay there, and apply the Plaister again for ten hours longer, then open it, take out the tent, apply a smaller tent covered with the wound Ointment, and a stitch Plaister upon : and thus proceed to the end of that cure.

X No blood to be squeezed out of the wound.
Example. Squeeze no blood out of the Wound, because the Opodeldoch will do it without any other means : beware you do not search in the wound with the seeker, for fear you do stir a blood vein, and cause it to bleed afresh. For I knew a Surgeon, who was still graping with his instrument into the parties Wound, causing thereby a vehement bleeding, and spoiling the patient.

At a certain time a patient was brought to me, whose wound did bleed so much, that he grew very faint thereby. The Surgeons who had him first in hand, tryed several conclusions, using long sharp tents for the Wound, whereby they toucht the blood vein, causing vehement bleeding, I took out the tent, flung it away, using none, and cured the party in short time.

In some Wounds there is found much blood, yet none runs out at the opening or undressing of it, and no sign appeareth either of pricking or any other : this is a sign, that that that Wound was tyed to hard, and the party is full of blood. For with hard binding the flesh is prest together, and is forced to cleansing, and weeping : and if it hath vent, it bleeds no more. This Symptom is thus remedied, to bind the wound slackly, and let the party not put on too straight clothes,

Surgeons

Surgeons ought to take good notice, and care, when the bleeding Wound will not be stented, especially when that Wound bleedeth not, but after when it is dressed, or else it bleedeth before and after dressing; and at the dressing: the cause hereof is, that the veins at the dressing be too much forced and prest; the same is seen at phlebotomising, when the veins are tyed too hard, the blood doth not spin out so freely: however pretty things help the bleeding of the vein. This ought to be known, at the bleeding of a Wound in the foot, to have it stented. The dressing is of as great sequel and concernment, as applied medicines to Wounds, which I know experimentally.

If a parties Wound bleedeth, when he goeth or sleepeth, then bind it slack, and meerly apply the Plaister, then you may the sooner perceive from whence that bleeding comes, and take notice of the following sign: for that is caused when there is no tent put in, else it is a false sign. When a spongius flesh appeareth out of the Wound, looking like coam'd wool, and that without any pain may be put in; this signifieth that a splinter is loose, or a piece of arteries is coming forth: for such a thing closeth nigh with the blood vein, which is hurt with touching: here you must search without delay, else the party and you will have work enough, because the bleeding may be increased, and the vein be shut a great deal behind that, and no way left for you to come near it, and bring you to sorrowes.

Therefore strow onely burnt Allum into it, this is strong enough; if you should use a stronger, it would soon run and eat through the Wound, which in a long time you would hardly be able to cure again. Let the Allum lay there till the next day, it will come forth of its own accord: if not, then put more of the Allum to it, it will take away the flesh which sticketh to the splinter. But in case the flesh and splinter will not part one from another, proceed you nevertheless in the cure, as if there were no such splinter, it will loosen of its own accord in time, the healing will thrust it off, and must give way, even as an old tooth must yeild to a new coming one: so that spongius flesh driveth the splinter,

splinter, that it may be taken forth at last without danger.

Therefore let not such a Wound be closed, but keep it open till the splinter cometh forth, or the piece of the vein be gotten out with the matter: for a Wound closed up, where a piece of the vein is yet unhealed, it will cause shrewd Imposthumes.

CHAP. XI.

Of Collostities of healed Wounds, some whereof break afterward, some are gone, and settle to another place, causing lameness: what these signifie, and how they are to be handled.

SOME Wounds after healing are knotty and callous, and covered with the skin even as the wound is: here the following signes are to be observed.

Signes of
Callus in
wounds.

If that collostitie be without any swelling round the wound, then it is a sign that a splinter would faine get out: and if the party feels prickings, then is it the surer sign of it: and if that calous gets a yellow blister, and breaketh, then keep it open with a tent to the end of the cure, as you heard about such splinters. But if the Wound is swelled, then it is a sign, that a hollownes is left in the Wound: and if pantings, pains, and smarts are felt in it, then the surer is the sign of such a thing. This is incident to such Wounds which were very deep, and were silyly and ignorantly stit-ched, to close them the sooner, before any fundamental healing was laid at the sides, hence such spoiled wounds are caused. If any such neglected wound comes to your hands, & you have observed by the signs, that there are no splinters in it, then do thus. Take our Opodeldoch, and the clear running resine, ana $\frac{3}{3}$, melt each apart on a gentle coal fire, and then pour them together, put to it pulverised amber $\frac{3}{8}$, stir it well together, till it be cold: spread a Plaister of it, in that bigness, that the whole sore and swelling be covered with it, and apply it: let the plaister not run together, as you were informed of it, about the fractures:

it will forcibly draw out the humidity through the skin, and heal the wound fundamentally. In case there lyeth matter beneath the Wound, then open it nere the sooner. These are called Wound Fistula, these have their causes from other things, which are caused by evill medicines and silly Surgeons. They are comprehended under one cure, which you shall hear in its time, when I shall speak of all manner of sores.

There is another kind of Collofities, different from the other, which are very hard, without pains, and appear on the joint with a swelling, do not pain the party if toucht, and go away again of their own accord, and the Wound looks fair, as if healed: this is a sign, that there is some humor shut up there, which after the healing of the part or member doth appear on the joint, and there setteth in the hollownes of the joint: that gibbositie goeth away again, yet leaveth a humor behind. This moisture being settled there, doth join with the gluten of the joint, and groweth tartareous in the end; being come so farre, then pains are caused afresh, which stifneth and suffocateth the joint, that it cannot be flexible any more, which the party at first could stir and move whilest the Wound was fresh.

The Surgeon that had such Wounds in cure, knoweth best what the cause thereof is, if he hath drest them with Cataplasmes, which never did any good to any joint Wound: because moist things are alwaies hurtful to joint Wounds, and above you heard more largely of it: if the tendons in joints are wounded, and the wounds are stitched, then the moisture which these ligaments afford cannot be well cleansed out of the Wound, (for these afford no matter, as flesh wounds do, though their moisture be more clear and subtile, but is tuff and clinging,) so these settle betwixt the joint, where they keep so long till they get a little vent. This maketh no appearance, unless the Wound be closed. And seing it can not ripen to any matter, (no moisture of tendons turns to matter, as you heard) therefore needs must it turn to a collofitic, causing that mischief you heard of above. Some Surgeons regard these infirmities but little, if

Other collofities,

they have made up their cure, then they have a holy day. Many Patients that were spoiled through stitching, were brought to me, whom through Gods help I have cured de novo, and made them found.

The proceſs of it is thus : drive the gluten in the binding all to one place, then launce it, where it is deepeſt and faſeſt, drive out its moiſture with the ſalt of red Corals (which is ſtrong enough to diſſolve that on-ſettleſt tartar) and then heal it with the great Opodeldoch. That tartar being out of it, then you may uſe baths, fomentations, ointments, &c. elſe you cannot prevail. For if the ſlime ſtayeth within, things uſed will avail nothing : and that party will be pained at the changing of the weather. I know no nearer way to cure theſe Symptomes : he that knoweth better, may bring it forth.

CHAP. XII.

Of joint Wounds, which by ſilly Surgeons were cured to lameneſs, though not hurt to any lameneſs, how theſe muſt be remedied.

IN the precedent Chapter I told, that if patients be healed lame with ſtitching and Cataplaſmes, ſuffocating the joint thereby, and cauſing a lameneſs : now will I tell you, how ſuch joint wounds, being cured lame, are to be brought to right again : for the ſilly Surgeon cauſing too much fleſh to grow in ſuch a Wound, cauſed the joint to be lame.

The caſe hapneth thus : if a joint be wounded, be it in the ancles, knees, hips, elbowes, ſhoulders, hands, fingers, then commonly theſe Wounds are dreſſed as other Wounds with oyles, Plaſters, Ointments, and vulnerarie Potions, &c. and they ſuppoſe, if the Wound onely be filled up with fleſh, then all is well : and ſo they give way to the fleſh to fill up the wound, and ſo cloſe it, not regarding that canon I quoted above, in joint Wounds not much fleſh muſt be ſuffered to grow. Hence.

Hence doubtless lameness is caused : for if too much flesh groweth in a joint Wound, and the Wound in the outside closeth, the flesh within still groweth, and ceaseth not to grow till it have filled up all the hollownes of the joint, whereby the arches of the joints are stopped, insomuch that it is impossible for that party to use that joint, as he did formerly, as long as that flesh in those chambers do lodge there : for as soon as that joint is stirred, then the flesh in that joint is so prest together with painfulness, whereby a lameness is caused : and the party can make no use of that joint by reason of the great pains, which the overmuch growth of the flesh doth cause. And this commonly betals the joints in hands, by reason of the plurality of the bones that are there. This rude Surgeons bring to pass, which hasten their cures away with anointing, salving, fomenting, &c. ordinarily men may know, that such things cannot be performed in such wayes, if so be that the flesh shut up there is thus imprisoned : therefore observe another process, *Viz.* In case a party be lamed in the said manner by Surgeons silliness, and you intend to help that party to right, do thus : launce the healed wound with a rasor, pretty deep, provided, you hurt neither bone nor sinew, and enlarge the wound dayly with gentle corosives, but in the middle of the wound, even on the hollownes of the joint, where the party complaineth most, and where you think the fault is, to leave some flesh, which you may soon discern, that the corosive powder did not touch that part of flesh when the wound is open, and the party bloweth the joint. That flesh in the middle you must loosen round to the bone, lye a four doubled threed about it, draw it close together, and then gently pul : if it be not quite loose, then make it loose with a lancet, then give a stronger pull, and see you get it out : that flesh will be full of ravelings and streaks. Thereupon presently put into it the brown Ointment, and so dresse the wound twice a day with the Opodeldoch, so long till your cure be at an end. Make use onely of the Plaister, and forbear to use any greasie things, as oyles, poultresses, &c. in case you have not the brown Ointment, then you may use other things.

Many may marvail at this strange process, and cure : let them observe, that which hath been said, viz. on that flesh, which is to be pulled out, hang many ravelings and roots, are like the little roots, which are scattered in the joint; which in the bowing are stified and made inflexible : these cannot be cut out, because they lye hid strangely in the depths and hollowneses of the joints, these cannot be gotten out with any corrosives, they will sooner corrode away the sound flesh and bones, before they could touch the scattered and deeply hid roots and streaks : neither is there any difficulty in this way : because these flesh roots hold not very fast, slide easily off from their plates, and that very neatly and purely.

I do impart unto you also a fundamental instruction of curing of joints, lamed with a blow or fall; be it on the knees, elbowes, and hands, where the joints stand still, and are well set, yet the patient cannot bow nor stretch them; or turn them as he would: such may in some sort be helped, for I brought many such elbowes to right: & I took an easier way in hand, I greased that joint with warmed Dialthæa, and at night I laid good store upon it, and drest the joint with binding below and above it, in the mornings I annointed it, stroaking it gently, sometimes I continued it a whole hour, and every day I measured the joint, on his body, to see how far he could bring it, and two daies after, I tryed further, and tyed the joint into a splinter, because it should not shrink and grow shorter, and so after the pulling, I proceeded, For if a joint be stretched suddainly; usually an exication befalls that joint; but if done gently and by degrees, then is it advantageous to the joint, if a joint be out-stretched forcibly, yet it will not keep so, it runs backward: and if you leave off the splinter, then the joint swelleth or dryeth up. Therefore I still set and bowed it gently, and brought it at last to its due proportion; though the out-stretching falls not out so just, as it doth in the bowing. Wounded joints, which lame many, several wayes, are to be understood and taken the same way as the above named joints, and used gently in the out-stretching and bowing, as much as the joint may

may endure , and to lenifie them with Ointments, Fomentations, according as occasion will serve. And to illustrate this cure with some examples : I had one of *Nurnberg* that was cut in his hand, and was cured lame ; which I cut and lanced again, pul'd on the great sinew, and drew it upwards, and cured him, so that his hand hung no more down, as it did after the first cure. Another receiving a wound in his knee, was cured lame : upon occasion he suddainly starting up to defend himself, he was hurt again on that knee, but was cured then without a lameness. Another was cut lame at *Nurnberg* on his elbow, he was cured without a lameness. I alwaies observed, whether it was possible or no to heal a wounded joint, and regulating my self accordingly, and still having a care to heal the thumb upward out of the hand : and hold it better to heal a finger straight, than crooked ; and too straight is dangerous, and an upset hand is sooner bowed, than a hand which hangeth down, to be set upright : and a knee and elbow is sooner bowed, than stretched out, to make it stand right, as it should.

CHAP. XIII.

Of Wounds spoyled through external accidents, as through the heat of the Sun, and the raw ayre, and are dried up, and how these ought to be remedied.

HOW can a Wound be spoyled by outward causes? and in what condition such wounds are, you shall hear : some parties are wounded in a place, and cannot get from that place, where they were wounded, must lye under the cope of heaven in the heat of the Sun, whereby all his body is set in a flame, and the wound also is made angry, is growu brown red, dried up, and the party commonly hath exceeding great thirst : and if such a party were to continue to lye in the heat of the Sun, death would befall him ; especially if the wound be in the scull. But if such a party can be brought

to a good Surgeon in any time, then ready well prepared medicines will be aiding to Nature, with Gods blessing upon the means.

Wounds
soon are
burnt or
spoiled
with cold.

Such a wounded party happily tarryeth long in the field, is farre from home, before he can be drest the wind gets into the Wound, exiccateth the same: and if that Wound taketh cold, if in a winter season; then that wound is spoyled by frost, and many other inconveniences are incident thereunto. Touching Wounds that are exiccated, or have taken cold, of these I will plainly deliver my mind, and the rather, because such things fall out frequently: and chiefly Surgeons to an Armie in the field, have need to be ready for such accidents; for here they meet with all manner of inconveniences: when parties are either skirmishing, then they have no long time to bethink themselves what to do, neither is there any occasion to advise with others, the parties wounded must lye, till the skirmish is over, let the Wounds be what they will. There is great distinction to be observed touching such cures, and those, which to such accidents are not subject.

The cures I shall speak of here, were not found out in mine own practice, but I have seen and learned them of experienced Surgeons; which afterward I took into careful consideration, and in my dayly practice endeavoured so farre, that at last I got to the true fundamentals of them. And that which I have learned and seep, and made experiments of them, I will impart it faithfully, whereby you may see my intentions to be fide and reall.

Touching these Wounds which are spoyled and exiccated by the Suns heat, you are to note; if the suns rayes strike directly into the wound, or they fall onely on the patient, and do not come near the wound, then it may fall out, that the wound is dried out in a short time, the lips of the wound grow as hard as a stick: in the inside the wound groweth brown red, like half roasted meat, yet there is some moisture in it, with a little swelling about, beating and paining very much, great head-ach is joined with it, and the patient is faint by reason of the great heat, which posselt his body.

To

To apply pertinent remedies for such Symptomes, do thus: Curs for exicccated wounds.
 ℞ of Salmiac water $\frac{3}{4}$ 1, Rose vinegar $\frac{3}{4}$ 3, white Amber $\frac{3}{4}$ 1, hony Roses or mel Rosatum $\frac{3}{4}$ 6. Boyle these like an Egyptiacum, wet linnen ravelings in it, and tye it to the Wound. If the wound be deep made by stabbing, then the Ointment may be conveyed into, with a syringe, and apply a Plaister to it. Then take good Rose vinegar, in which you dissolve a little of prepared Saltpeter, make it luke warm, dip a cloth into, apply it four double about the Wound, covering the wound every way, that vinegar being grown cold, warm it once more, and apply it again. Beware you use no greasie things, of oyles ponceffes, &c. because such wounds receive no greasie things, for they are not onely not good, but hurtful. Moist ointments of a waterish nature, without greasiness, allay heats, and are sharps: to eat away the heat, the skin, panicle, &c. thereby to open the obstructions of the wound, that they may the better admit of healing, such things you are to use here, if so be you intend to do the party good: such wounds must not be stitched by no means: for these wounds that are thus exicccated by the Suns heat, admit of no healing, unless they have thrust forth that, which the Snns heat hath spoyled.

Outward means thus applied will not do it alone, inward medicines must be used also. For a Wound spoiled in this manner, doubtless the whole body suffereth also, especially when other Symptomes are coincident, as a Wound sickness, a Fever, an Inflammation, &c. Internal Medicines.

Therefore in the first place phlebotomize the party on the opposite side to the Wound: The best way for head wounds, is to open a vein under the tongue, if the patient be able to endure it: for thereby the heat in the head will be much allayed.

When phlebotomie is used in this case, then be provided with a Vulnerarie potion, which must be made thus: ℞ Stellaria or Wound hearb, Bistorta, Pyrola, white Roses, Vulnerary
 or Rose water, ana $\frac{3}{4}$ 1, boile all these in a quart of water potion.
 for an hour or two in a closed kan: being boiled, strain

its

it, dissolve in it of prepared Saltpeter $\frac{3}{4}$ 1, put to it of pulverised Oculi cancrorum $\frac{3}{4}$ 1; of these let the patient drink four times a day $\frac{3}{4}$ 1 $\frac{1}{2}$. This drink will come to the Wound and will expell the heat not onely out of the Wound, but out of the whole body, and will quench the patties extream thirst.

Dyer.

The patient must be kept in a cool temper, and eat of meats which are of easie digestion; let him not be oppress'd with thirst, which would be hurtful unto him. His drink must be made of Barly water, of plantain roots, and of winter Cherries: he must use also conserves of Violets, Roses, &c. Go on with this process, so long till the Wound separateth from that which is spoiled: then you may use other means, as they are proper for wounds, and proceed with the rest, as you heard above of other wounds.

Diaphoreticks.

One thing more is necessary; if so be that the patient is able to endure, that he be put into a sweat; be it with Treacle, Mercuride, &c. For such wounds must be dealt withal, as if there had been any poyson therein. If the patient can endure sweating, his condition will be the better.

Touching the Wound diseases, or the Wound gall, (which by some are judg'd to be a kind of the plague) the patients condition is the worse, if these are at hand: if the patient cannot endure to sweat, then is he in a worse condition, and is in great danger. Further Symptomes he is not able to undergoe, and therefore I leave to speak of any more.

These things you heare do befall wounds, exiccated by the Suns heat, the like befalls other wounds by the Ayre and Wind, whereby they are exiccated also, insomuch that they are left bloudless.

Signs of exiccated wound.

The occasion and condition whereof may be learned of the patient; *Viz.* how long it is since the vvind and the air got into the Wound: if not, then the following signes must be regarded: the vvound is dry and doth not bleed, unless being toucht, it vveepeth a little, the skin of it being shrunk, and its lips turned: if an anger is in it, then it gapeth vvide, and that is accompanied vvith smarting pains:

pains : it gapeth sometimes so wide, as if it were ready to split in two.

If in such a Wound the great muscle of an utter joint be hurt, and a sinew cut in two, and the joint also be much hurt or the skull of the head is cut, then the condition of the wound is the worse, because many symptoms are like to meet, *Viz.* the Wound Inflammation, on which the Cold fire attendeth. the Wound disease, and Wound feavers, Gout, and Cramp, &c.

The cure of such a Wound is this : *Viz.* R well scummed Honey $\frac{3}{4}$, *Aris viridis* $\frac{3}{8}$, Vinegar $\frac{3}{8}$, raw liquor of Vitriol $\frac{3}{4}$, mingle these, boil it like an unguentum *Aegyptiacum*, to a spissitude : spread it on a long fine linnen, thrust it down to the bottom of the Wound (provided it be not a head Wound for that must not be dealt so withal) the one end of that linnen must hang out of the Wound, for the easier pulling of it out, when occasion serveth. The wound must be filled up with that ointment, then a stiprick plaister to be applied upon.

Ointment
for exic-
ced wounds

Then take of the oyl of white Turpentine, or spirit of Turpentine, one part, of distilled oil of Bayes one part, and of gum Amoniac one part, mingle these, annoint the wound about, it will penetrate, and warm the sinews. Then apply a defensive plaister, and so proceed in that cure : use no greasie ointments or poulcesses : Keep the patient warm, dresse him twice or thrice a day, and phlebotomize him, if his strength will allow it.

The next day I usully ministred to the patient this following drink ; R Radic, Turmentil, and Angelic, purely beaten, ana 3 i, of Mumia $\frac{3}{8}$ i, Mitridate 3 ii, Aquapimpinelle $\frac{3}{4}$: mingle these, let the patient take two spoonfuls of it, and an hour after let him take two spoonfuls more, mix with it 3 i or 3 ii. of Oculi cancerorum, more or lesse, as you shall see occasion.

Potion.

Endeavour to perswade the patient unto sweating, which if you proceed in, the patient will be soon the better ; and in the time of sweating if he be very dry, then let him drink of boiled Barly water, let him not be oppressd with thirst,

Sweating.

as I told you above also: it is indiscreetly done to suffer such patients to be thirsty overmuch, because great inconvenience is caused thereby: it would do well, if after such sweating, the party might be phlebotomised: but Surgeons must be regulated herein, as they see occasion: if the party by reason of his faintness is not able to endure sweating, then press him not thereto, and proceed with the rest in that cure.

All these said things being done, then look to the wound, whether the part spoiled in it, inclineth to separate: which is known thus: when the wound is waterish and mingled with some matter, the which hapneth not within thirty or forty hours: if that sign be at hand, then cease to use any further the above named ointment, and take good wound ointment, put that into the wound, and apply an Opodeldoch or stiptick Plaster upon, & make use also of a defensive Plaster. In case you dare not trust to all these, then let him sweat twice more, for more security sake, and proceed in the rest as you heard above. The Cramp is usually joined hereunto; what you are to do in that case, you shall find in its due place.

I must needs speak of abuses committed in these, whereby patients are bereaved of their joints, and sometimes of their lives also.

This abuse is partly committed, by stitching, which is stark nought to be used here: because that flesh in the wound, exiccated and spoiled by air or cold, the same assimilateth no more, but is to separate off; and how can it well separate, if pull'd together with stitching: besides these stitches will not tarry, but tear out, because the lips of the wound are turn'd outward; and in case such a wound should be thus stitched, the cold fire would soon get into the stitch.

Some Surgeons committed great faults herein, causing great hurts to the parties. *Viz.* As soon as such a party falls into their hands, then they presently use their Wound ointment or Balsam to the Wound, which is improper hereto: because such Wounds admit of no healing, unless the spoiled flesh be separated and be out of the Wound: which exiccated and cooled flesh comes not out of the wound of its own accord, but must be aided. Therefore sharp ointments are
to

to be put into such Wounds, vvhich cease on the corrupted flesh, and eat it off, and thereby to prevent that the sound flesh and veins be not infected.

Which cannot be done, if onely wound Oiles and Ointments be used, because these cannot rectifie that corrupted and spoyled flesh, but rather make it worse: which to prove, I could quote many examples, upon good reasons; whereby illiterate men of an ordinary capacity may be perswaded unto. And if it should happen that a party was cured by such oiles, and ointment, surely a great many to that one have miscarried.

I have known such Surgeons, which replied, that such Wounds had not their due excretions, onely watered a little; yet they went on in their salving, annointing, to the utter ruine of their patients: though that the patient felt that the pains of the utter parts of the joints encreased more and more, inclining to an Imposthume by reason of the continual beating and pulling: heowever they continued in their course, obstinately, supposing their way to be the best. Those indeed that know no other, and do their best endeavours, may partly be excused.

Thus much of this, of the rest the Reader may think, and mend it.

CHAP. XIV.

Of a Callus, on the Hand or Foot, causing great miserable pains.

SOME receive a hurt on their hand or foot, on which places many bones and sinews concur; where one or other may be hurt, which is taken no heed or notice of, neither care had to remedy the same. Hence it falls out, that Collofities original. Synonia begins to run into that joint, and groweth to a collofitie: and whereas to that place a swelling is joined, then is it supposed, to be nothing else but it. Hereby the patient is put into great extremitie.

This being an ordinary Symptome, enforceth me to speak something of it, the rather because this cure agreeth with the cure of the Callus, or Nodus: of the which mention hath been made above. This Symptome befalls not onely the hand or foot, but all other joint wounds, and stabs, where there is a concurrence of sinews and muscles, which being wounded, are by Surgeons also often times neglected.

To make it more plain: if a sinew or muscle be wounded, then usually they begin to weep, and yeild a moisture, which moisture, as you heard above, never comes to any corruption: and the skin being closed on that part, and that water hath no issue, it filleth up that place in a short time, whereby that place is enforced to an up-swellling. The sinews having a fellow feeling herein, may soon be set on a heat, which in time turning to a sharp humor, may make the thing worse. For the joint water or radical humor running from the sinews, joining with a sharp humor, how soon may that humor inflame and corrode the sinews and veins, and may easily be suffocated, if no vent made for it.

Though this hapneth also to other places, as you heard, yet usually it befalls hands, and feet betwixt the toes and ancles, because there is a meeting of many small bones, veins and sinews, and little flesh joined to them: and in such places such wounds may the sooner be inflicted. And because no congealed blood, nor spots appear there, therefore some silly Surgeons suppose the place to be in the lesse peril, and all is well to their seeming: and ignorantly they let it run on so long, till all be past help.

If any such party comes to your hand, being hurt by a blow, sting, fall, on his hand, foot, knee, elbow, and within few daies it begun to raise, swelleth, its pains encrease more and more, yet no sign appearing of congealed blood, or other fracture, nor any sinews or veins seems to be hurt, then is it a sure sign, that the Synovia or moisture from the sinews doth separate, and beginneth to be in a furie.

How to proceed in this case.

In this case tarry not, but instantly lance that part, and give vent, where you think it to be best, till to the hollow-
ness

nels within, and to squeeze out that water or matter : it had been well, if it had been lanced sooner : experience must teach you, how to deal herein : for it is impossible to set all down in writing, the work will put the manuals upon you.

Then thrust a proper tent into the Wound, well covered with the brown ointment, and prepared Verdigrice, then apply about the wound a defensive plaister. But forbear, to apply any hot Cataplasmes, as usually they do : because the strong heat of them causeth putrifications and suffocations to the sinews, But in case the matter diminisheth not, still increaseth, and the swelling retreateth further, then is it a sure sign, that the sinews and veins are all inflamed. In this case above the swelling there must be made another incision, and mix the brown Ointment with the Balsam of sweet Arsenick, make tents of it, as you heard above about the brown Ointment : thrust these tents into the uppermost hole, once a day, then the anger of it will be allayed, and the dying of the sinews shall creep no further : then other convenient means may be used, of good wound Ointments, &c. and so go on with the cure so long till the ill be separated. Remember to continue the brown Ointment to the end of the cure, for fear of a relapse.

The mischiefs, which those do cause, that undertake the curing of such things which they do not understand, ought not to be past over in silence, being a thing of great concernment. Those that understand not these hurts, use this process : they presently apply to such hurts warm Cataplasms though their swelling still goeth back, yet they still continue their poultesses ; but to what purpose ? they give cause to putrification, suffocating the sinews ? others make their experiments upon, with anointing, fomenting, bathing, &c. but to little purpose, because they know not, what lyeth hid under it.

When all these will not help, they made use of, and the pain encreaseth still, and the swelling also incroacheth more and more upon the body, and all turneth to nought : then they conceive where the fault lyeth, and lance that place, and

Abuses
what hurts
they cause.

Abuses com-
mitted ig-
norantly.

and let run out what will. But their judgment faileth them, not knowing from whence that matter cometh, and so they cannot hit the nail on the head: but give leave to the matter, as much as it will run forth, not considering the tuffness and clamminess of the matter, and sometimes ravelings of the sinews come out also, which they not regarding goe on with their old raggs; though that be an apparent sign, that the sinews, veins, ligaments within do rot, that is, an Inflammation hath taken hold on the sinews. If this misery be not remedied, then the sinews will be burnt away to the body, whereby great heat and feaver is caused. And that joint also being bereaved of its food, it had from the sinews, then the cold fire will get into, which bringeth death upon the party. For though that member be dismembred; yet all the other sinews are taken with the flame, and draw on into the body, which puts the party to death miserably. For this fire is of another nature, than the cold fire is, occasioned by other causes. Other Inflammations can be discerned in time and prevented from running further, and by dismembring can be remedied: but the foresaid inflammations do not appear so plainly to the eye, and are not taken notice of, but when they have all inflamed, and cannot be remedied. These I make mention of, to inform how by carelesness great mischiefs are caused, no other, as when by a small fire, a whole Town or House is set on fire, and burnt down, if not quenched.

CHAP. XV.

Of swellings of Wounds, after they were healed: and what it meaneth: and how they must be handled?

THe causes of the several swellings in and about Wounds ought to be known to Surgeons. Formerly I have spoken of some kinds of such swellings: at this time I will give a hint of two kinds of them, not as yet mentioned.

In the first place it is to be noted, that all kind of swellings do

do not come into the number of dangerous Symptomes: those are of the dangerous ones, when sinews, bones, joints, &c. are grievously wounded, are not only the wound, but all other parts thereabout are swelled: of that sort having a natural cause of its swellings; I intend not to speak of: because if the wound doth frame well to healing, the rest in time will pass away.

The other sort of swelling, coming after healing, I intend to give a hint of, *Viz.* An utter joints muscle, being wounded, and well healed, was by the Surgeon kept too hot, and with Cataplasmes suffocated: after which such a wound begins to swell, at the beginning being without pains, when toucht, nor altering the colour. Such a swelling passeth away in tow or three weeks time, but leaveth behind a pain, which continueth with an increase: and the swelling being quize gone, it is found, that on that joint a great deal is tender, and that hapneth as it were in a sleep, not payning the party.

For to prevent this swelling, and to hinder that consuming and updryng of the joint, much salving, dawbing, anointing, &c. they have used; but I never saw any, which hath done more good, then the ensuing Receipt. *R* meal of Fig beanes $\frac{3}{4}$, meal of common Beans $\frac{3}{4}$, well beaten Orras $\frac{3}{4}$, pulverised Marigold flowers $\frac{3}{4}$, gum Amoniack $\frac{3}{4}$, boil these to a spissitude with vinegar, ad to it of distilled Annise seed oyle $\frac{3}{4}$, of emplastrum Diaguilon $\frac{3}{4}$, the emplastrum must first be melted, and then with the said oyle be mingled and stirred with the Cataplasme: spread a cloth with it answerable to the bigness of the swelling, apply it warm, in few dayes the swelling will be assvaged, and no exiccation vwill ensue. Because the vertue of the Plaster expels and outdravveth all humors, before they shall come to any settlement in such places. There are other means expelling vvinds and humors: *viz.* Annise, Fennel, Carravvay seeds, &c. as also Diuratick means may be used. Surgeons ought to order themselves herein, as they see occasion.

There is yet another sort of swelling, *viz.* Some receive a wound, vvhere no sinew is vvounded, yet that being healed, the

A plaster to prevent the tenderness or up-drying.

the party cannot bow that joint, in which some raising there is, but is not a perfect swelling, and the party feel-eth no pains. This is incident to such, that were wounded iether in the Hand or Foot, where some humor or other is settled to that wounded joint: and this befalls those usually, that are troubled with the stone, gravel or gout: and in that respect such sort of swellings we take to partake of he same infirmity. Such swellings cannot be allayed with anointing, fomenting, bathing, &c. For the matter which lyeth in the joint, must be reduced again to water, and so be drawn forth, to which end this ensuing is allowed. Take of Goats pisse lb 6, you may mingle Cowes pisse among it, if you cannot have a sufficient quantity of the other, distil it in sand, through a Helmet, the saces staying in the bottom must be calcined in a Pot, let it be cool, pour the abstracted water from it upon the Calx, make a lixivium of it, evaporate that, a salt you will find: take this salt, ad to it of kitchin salt $\frac{3}{4}$ lb, of the distilled pisse lb 3, and a sufficient quantity of well Water, for to dissolve the salt, to clear water: all these must be boiled again so long, that an Egg may swim in it, then let it cool so much, that you may endure to put your hand into. Into this water let the party put the said swelled member or joint, it will dissolve and allay those tartarous humors in a short time. The same may be used to other parts also, as to knees, ancles, elbowes, where any such swelling appear-eth, after they have been healed.

CHAP. XVI.

Of Vulnerary Symptomes, caused by bodily infirmities, chiefly by the Pox, or suppress Menstruum: how these are to be dealt withal.

ITold formerly, that Surgeons must observe what diseases their patients are subject unto, or troubled withal, that their medicines might be applyed accordingly: for these humors coincident to the wound, require answerable cures: I intend not to speak of all such Symptomes, but will give onely

onely a hint of one or other, whereby the rest may be judged, how they ought to be observed.

Some pocky people happily are wounded: these do not love to hear much of that infirmity, however they cannot be cured in their wounds, as those which were not defiled with them: for such pocky humors will take their course to wounds, settle there, and are usually obstructive to healing. Surgeons have reason here to look to themselves, how to cure such: they may know there by the matter, and the persons they have in hand.

First of all to cure such wounds, things above said must be known, and in case these will not be cured by ordinary dressings, then other means must be taken in hand.

Note; no Mercury is to be used to the symptoms of such wounds, be it prepared for fixation or otherwise; because Mercuries quality is to take away all impurities: and if Mercury should be used to a wound of a pockysied party, that morbus would be rowzed, and the party would be brought to deaths door.

The cure of such wounds is thus: \mathcal{R} Flos æris 31, crocus Martis \mathfrak{z} 4, Aloes Hepatick \mathfrak{z} 8, Myrrh, Frankincense, ana 3 8, Sallat oyle \mathfrak{z} 4, Wax, Turpentine ana \mathfrak{z} 4, melt the Wax, Turpentine, and Oyl with Vernice \mathfrak{z} 4, then put the rest to it, stir it well, so long, till it be cold. Use this Ointment to the wounds, apply a Siptick plaister upon it, it will heal the wound.

In case this said ointment should not prevail, then use the red liquor of Vitriol to it, which will inforce the wound unto healing: and make it thus: \mathcal{R} of Vitriol lb 2 purified with fresh rain water, let it dry, then calcine it to a yellowish colour, then pour on it again fresh water lb 8, exiccate it again, then set it into a Reverberatory, to bring it to some rubification, then put it in a glass, pour on it rectified Aquavita, that it stand two fingers breadth over it, which will tinge the Aquavita to a redness: Cant off this Aquavita, and pour other on it to be ting'd, which put to the first. This ting'd Aquavita is to be extracted per Balneum, a spissitude of honey remaining on the bot-

M m

tome:

from this must be poured fresh Alcool vinj, to take out the tincture. Cant of that purely, and abstract the Alcool again in Balneo to a liquid form, then is it prepared.

This liquor is of an attractive or to get her drawing quality, is not corrosive, and is a principal sovereign thing for spoiled wounds, where bodily humors are like to be incident: this may be safely used for spraines, and other wounds received in warlick services.

A Gentleman not long agoe received a wound in his face, who was pockified, but would not hear of it; the pocky humor falling into the wound, did burn much, and eat into: some Surgeons being sent for, they went about to use precipitated Mercury, thereby to cleanse and keep the wound clean; But what happened? Morbus Gallicus was thereby rowzed, and that humor was forced to come abundantly to the wound, and the mouth was full of it also. I being called thereunto, soon found what was done, and the patient was faine to yield to a pocky cure.

Mercury
not useful
in many
things.

This example I quote to that end, because some Surgeons suppose they can prepare Mercury so, that he can be fitted like a Saddle for any horse, little considering, that Mercury is naught for fresh wounds, be it as artificially prepared, as ever it may: because he is too searching, which is not alwaies good in these waies.

A notable
example of
a woman.

Many other Symptomes do concur in patients: one example I will quote, which is very remarkable, whereby others may be judged.

Anno 1590. not farre from *Basell*, an honest Gentlewoman, (which shall go nameless) was cutting a stick one time with a sharp knife, but the stick breaking at her hard laying on, she cut her hand, near the joint, flesh, skin, sinews, veins, all in pieces. A Barbar Surgeon being sent for, dressed her, and that cure went on well unto healing for twenty daies together, as both the Surgeon and the Gentlewoman affirmed it: now which of these two was faulty, I cannot tell: one night a humor fell into that wound running out of the wound like waterish blood, causing smarting paines. The Barbar holding it to be the joint water, used

used all the means he supposed to be good against it, but did no good. A Physitian and two other Surgeons were called, these also counted it a joint water, advising their remedies to be used to oppose it. Here was affliction upon affliction, and no ease or help: the Gentlewoman had no rest neither by day nor by night, and that continued for a whole week, then the humor stayd, and the party had some ease. But that humor had corroded all that which was healed these twenty dayes, her whole arm was much swelled and inflamed, and with much adoe that wound was hardly brought to that state it was in, in fourteen dayes, so much was it come out of order. They supposing now, that all things were brought again into a good posture, and that all dangers were past. Behold four weeks after the said humor fell again into that wound, causing as much pains as ever it did before; physicians were much perplexed at, not knowing what to do. At that time it fell out, that I went to dresse a Gentlemans child, which had a hurt on the ancle, wherein a callus was grown, being neglected by Surgeons. The other party hearing of my being there, sent for me; I beheld and viewed the wound, and found that that humor was no joint water: I presently asked the Gentlewoman about her monethly courses, she replied, she had them not since she was wounded: then I perceived what humor that was, for I had several such cases under hand, their cure I learned strangely.

I proceeded thus: first of all I opened on her foot the Saphena, then I made a pessary of Hellebore niger, to be put into the matrix: thereby the humor was brought to its natural channel; she found ease instantly, all pains were gone, and was cured, which the party thankfully acknowledged. Others marvelled at the cure, some whereof held it impossible, that according to my direction such a cure should be performed: but they could say nothing against the thing being as clear as the Sun. The like must be judged of a Cancer on Womens breasts, bellies, or privy places, which sores or ulcers are mortal, if their courses be obstructed: all your medicines will not prevail, unless their cour-

ses be first reduced. The like in Men may be observed, if troubled with Cancers, which are incurable, unless their Hemorrhoydes be orderly: in such it is true, that usually have them.

No inward
medicins to
be used.

One thing more I must tell: if you have such a Woman in hand, to cure her of a wound, then beware you trouble her not with any internal medicaments; for such humors are not so soon stayed: and though you suppose to reduce such humors by inward medicaments, it will availe nothing: for in that case that humor will not keep its natural course, but comes forth at the wound, and the stronger that inward medicine is, the more it will spoile the wound. Therefore make use onely of the above named Pessarie, or other fomentations, perfumes, bathings, &c. according as experience shall minister occasion.

Thus much Reader, I thought good to impart unto you about such Symptomes, hoping you will learn so much thereby, as to regulate your selves in the rest agreeably.

CHAP. XVII.

Of three sorts of Wound-diseases; and first of the Wound-feaver, how that is to be discerned, prevented, and cured.

Hitherto I have made mention often, about the Wound-disease, and Wound-feaver or Ague: my intention here is, to speak more largely of it, the rather, because there is not a worse Symptome; and these are not alone by themselves, when they come: but Apoplexie, Palsie, Convulsion, &c. do accompany them: of these I shall speak no more, then my practick hath revealed unto me. I cannot chuse here but must speak of a mistake about the wound disease, because they talk of it, as if there were no more but one sort of Wound disease, and make no distinction herein: and because that distinction is not observed, comprehending it all under one cure, is the cause why so many patients are neglected.

There

There are three sorts of diseases, which befall Wounds: ^{A threefold} the one is not cured like the other; and what is good for wound disease the one, is naught for the other: and the one disease is ^{ease} more dangerous than the other. Therefore it is a dangerous and foul abuse, when some pretend saying, if one is understood and cured, the rest also may be cured in the same manner. The first sort is called a Wound Ague, or Feaver, or the Wounds fire: because at its first coming it is exceeding cold, shaking the whole body like a strong Ague. ^{Wound Ague.} then a strong heat followeth upon, and a mighty inflammation of the whole body ensueth.

The second sort is called the Shaking, or the Wound-gall, it comes with a shivering cold, no heat followeth, but a great pain in the Wound: ^{Wound gall.} commonly there is seen within the wound a little clear blister, or in the outside there is a brown one, which is full of blood.

The third sort of the Wound disease, is called the beating or unquietness within, which is onely within, without any shaking Ague, when it comes, but it comes with extreme smarting pains, with heat and cold joined: the patient hath no rest neither by day nor by night, continually turning and winding this or that way. ^{Beating in the wound.}

These are the three distinct and severall sorts of Wound-symptomes, of these I intend to write, yea rather because I nere saw any thing written of it fundamentally. It is strange that so little is extant in writing of the signs hitherto mentioned, about the Wound diseases, being a thing of such high concernment, and ought to be timely prevented.

Most Surgeons regard them not, watching onely for their end, yet know not what to do, or how to handle these things. When such a Symptom is come to the wound, and the patient in great anguish, and the thing is come to extremitie, then they conceive of a symptom in the wound, but know not what it is. But experience sheweth, what the event is of such symptoms. These men not understanding the sorts of these symptoms in the wound, and perceiving a great heat about the patient, yet cannot discern that

it is a Wound disease; then they are busie to cure that Wound disease as an ordinary Ague, hoping with their coolers to expell that heat, using Nenupharine, Poppy seeds, Solatrum, &c. and thereby they use things contrary unto it. But doth not experience tell, that such Paroxismes cannot be allayed and kept off by their coolers? true the great dryness and thirst they quench, but it was not seen that they ever cured the disease.

Though such a patient be plebotomised, yet is the disease not expelled thereby, as every one may judge; though plebotomie is of good use in such cases, and that is the reason, why so many dye of it; because such diseases are not rightly opposed: and if any recovereth of it, they have the more cause to be thankful unto God, that granted them so much strength, when neither plebotomy, nor purges would help them.

Cold.

Of the chilliness in the wound.

To speak of the first sort of the Wound disease, Note, that that is commonly the most dangerous wound: if that symptom befalls the wound, especially a head wound, commonly it bringeth death: and many patients loose their lives in that kind. This symptom is the worst among the rest, and its effect is as bad as the plague it self. It comes first with a chilliness, whereupon there followeth a mighty cold, and then smarting pains in the head: if that wound be in a place, where there is a concurrence of great muscles, sinewes, white veins, then the patient groweth somewhat out of his wit, and talketh idly: and if he recovereth not his right senses in tow or three daies, then is it a sign of death: if that paroxisme comes above three times, then is the sign of death the surer.

This is that symptom, whereof so many dye. For it is an usual saying, if the patient outliveth five, seven, or nine dayes, then he escapeth with his life. Some set that time further off, to the thirtieth or thirty fifth day, which is not very uncertain neither. For if a symptom cometh not into the wound within twelve or fifteen daies, then it will not come at all or very seldom; unless the Surgeon or patient hasten it on. But if the wound be not so dangerous, then

then no great carefulness is need ; unless the *Pia Mater* under the skull be wounded , for then strange symptoms must be expected , which happen when they dream least of it , as you heard above about Head wounds.

Touching this cold or ague in the wound , Note ; how it may be discerned before its coming. For my meaning is not , that Surgeons should stay for the seventh or ninth day , when its full force is come already into it. Experience teacheth , that an enemy is with less opposition kept off from invasion , than beaten out , when invaded already.

The original of this Wound Ague , which causeth great mischief , is variously discoursed of ; even among those , which do not understand it. My intent is not to be large in the writing of it , only for Novices sake in Surgery , and the good of patients , I will shew , how this symptom is known , and how it is to be healed.

If you desire to know exactly , from whence a Wound disease hath its original , let them take notice of the following things : Its commonly caused by anger , frights & fears , great pains , and disorderly life in eating & drinking uncleanness : I forbear to speak here of bad medicines : in a word ; according as the wound is in a dangerous place , and in a dangerous joint or member : (the one being nobler than the other) especially the Head is the noblest , and according as the blow , cut , stab , is made , and in what years season ; so symptoms will be accordingly. Nothing bringeth so soon on such symptoms , than when a party is wounded in a dangerous place , and the wound bleedeth vehemently.

The original of the wound dis-

French , Italians , and other Nations observe this custom , that if a patient hath bled nere so much , they will plebotomize him further , which is an ill and refusable way. For a patient , which looseth too much blood , looseth also much of his natural colour , whereby he groweth cold and faint. And if the wound be on a dangerous place , then pains are caused ; these pains cause anger , anger causeth heat , upon which the foresaid paroxysme followeth infallibly : heat and cold striving and fighting one against another,

ther, at last the cold being conquered, heat got the predominancy, whereby all is set on a flame. This heat and venom lyeth in man like a smoak or fume, and must by force be expelled; because otherwise it cannot be extinguished: and coolers can do little in this particular. Syrups, Juleps, Conserves of Buglosse and Borrage will avail here nothing: and with these Surgeons commit grosse errors. I have been present sometimes, when the Physitian felt the patients pulse, which is not so improper neither, then viewed or cast his water, finding him to be in a strong seaver, and it was so. Then presently some Syrups must be mixed, and with Cordials the patient must be upheld, with Goat milk, Syrup, Conserves, &c. but none of these men knew, where that Ague did lye, nor where the fault was: the one judged it to be a continual Ague, the other judged it to be somewhat else: every one had his own judgement of it, the one contradicting the other. But what was the patient the better for their jarring? I never saw any patient cured with disputing: my self differed sometimes in my judgement concerning such symptoms, but Experience shewed me the better way.

To discern
the wound
ague.

This Wound Ague, (to come to the point, according to my promise made afore) to discern well before its coming, you are to note; that when that Wound symptom is coming, the patient is unquiet, stares up and down, lost his sleep, and if he slumbereth, be starteth, awaketh, and is unquiet. If the Wound be on a joint, then he doth not hold still, striveth continually to shift this or that way, and then it is commonly angered. But the patient must first be well observed, whether he sweateth in his sleep, (as you heard above also) they do not usually sweat, though they are hot enough, and are much greedy for drink.

Moreover this also ought to be noted, if a wounded party hath a deep red color in his face, more than he had formerly before he was wounded; or he looketh paler, yet is hot in his body; which he was not so before he was wounded, then is it a sure sign of this symptoms coming; which we speak of now. These and such like signs are to be observed in the outside of the patient. But

But the knowledge of the wound is of chiefest concernment: if the wound be in such a condition, as I shall speak of the like about the Prunella or Inflammation; (thither I commit the Reader) then is it a sign of the coming of the Wound symptome. For if Nature be so strong, as to keep the Prunella in the said joint, and not to let it run into the body, then the cold fire comes into, and nothing else; but if that heat in that joint presseth backward into the body, then it causeth a Wound symptom. These two symptoms meeting, are a sure messenger of death.

These following signs, which concern not the Inflammation and Prunella, are to be observed also. If a Wound be fresh and new, not much touchy, so that the patient may suffer to be toucht well, and being toucht hard, he feeleth it smart; this is the first sign of all: especially if the patient speaketh quick, and looketh agazed: it is a sign, that such a party is mightily infected, and is to look for that paroxisme, accompanied with perill of death.

Observe also these signs, which the coming of the wound disease giveth you to understand. If a Wound look pale and a dead colour about the corners and lips, but the wound within looks brown red; and the patient is overrun in his body with a strong continued heat, and keepeth in that strong heat, groweth not cold or clammy, (as it usually hapneth in other sorts of wound diseases, which must be observed for distinction sake) and that strong heat and feaver goeth on, to the coming of a paroxisme, after which there followeth yet a strong heat and inflammation, which may soon make an end of the patient.

One thing more I must relate, touching the increase or decrease of the Moon, according to which commonly wounds are affected. When a patient groweth still weaker at the decrease of the Moon, then you may expect at the new Moon a heavy and dangerous paroxisme: if the patient continueth in a strong heat at the increase of the Moon, it signifieth that a wound symptom is come, or any other bad accident, which is so, if the aforelaid signs appear also; else it hath another meaning, howeyer it signifieth but

Signes
from the
Moon.

little good. These signs spoken of, Surgeons ought to observe diligently, and learn thereby to discern a coming wound symptom, that they may oppugne and repell, or keep them off, (before they be quite come) the preventing of them is easier then their expelling after they are come.

Cure of
wound
symptom.

It is time now to tell, how this symptom is to be oppugned : I will speak of it as I found it experimentally. I do not hold my process forth in that manner, as if it were unparraleled ; only this I say, I found it to be the safest and best. Note, I comprehend all into one cure, whether a symptom be coming, or be come already. You must consider, that if a wound disease be discerned in its signs, before its coming, then is it needless that strong medicines be applied, as when a paroxisme had been over. For this cure I applied not when an inflammation was already in the wound disease, for then it must be ordered otherwise, as you shall here in its due place.

The foresaid signs of the wound disease having appeared, then have a care to remove pictures out of the Chamber, where the patient lyeth ; for patients being very weak, and beholding such pictures, causeth in their fancies strange imaginations, whereby they are frightned and amazed, which maketh symptoms to be cured with more difficulty.

Touching the cure it self, as I have learned in my practice, I ordered for the wound disease, where the paroxisme was gone, which being done, then minister unto the patient of this following Aquavita, from one to two and a half ounce, according to the condition of the patient, and let him sweat upon them very well.

To cause
sweat.

In case the party cannot sweat (which usually hapneth) then heat Tiles, or Brick stones, moisten them with Vinegar, wrap them into a cloth, and apply them to his feet in the bed ; or to any other place, where you think it fit, and so let him sweat, as much as he is able to endure.

To expel
heat, caused
by sweating.

Seeing the party is to sweat thus, notwithstanding he is hot already ; then take of Goats milk lb 1, of distilled water of Nightshade ʒ 1, dried or fresh Alkekengi ʒ ʒ, pulverised Fenegreek ʒ 3, of Rose water ʒ 1 ʒ ; boil these
to

to a spisse Cataplasme; spread it on a cloth, apply it warm to the right side to the region of the liver, then that heat, caused by sweating will not prejudice him.

This must be applied to the right side where the liver lyeth, that it be not too much inflamed, that must lye there, whilest he is sweating. To the pulses both on hands and feet must be applied a four doubled cloth, dipped in Rose water, where Saltpeter was dissolved in: doubtless the patient will find himself well after his sweating.

His dyet must be of easie digesting meat, it would not be amisse to put among his meat some sirup of Nenupharine: after the sweat other medicaments may operate; which ought to be noted. If the party be costive, then make a glister of flesh broth, prepared of Mallowes, Camomils, Rose oyl, you may if you please, or you see it fitting, mingle with it, two three or five drams of Electuarium de succo Rosarum, which will cool the body within gently, and do more good than other purges, this may be iterated, if need be, &c.

This cure is ordered for a wound disease, when it is already come: But when it is but coming, and you intend to prevent its coming, which will be the best way, then the medicaments ought not to be so strong; therefore a dose of the foresaid Aquavita, will be enough of $\frac{3}{4}$ 1 ℥: in the rest you proceed as you were told.

Touching the wounds, it is the safest way to use to it the brown ointment, and apply on it a stiptrick Plaister. If there be any heat in it, then use round about the wound unguentum dialthææ, or oleum Rosatum: I love not to have the wounds too cool, because coolers are not very good in these wayes. At last apply to it a good defensive Plaister, and look to the healing, which doubtless will soon appear, as soon as sweating is over.

Cure of the wounds.

All these being done, the patient and the wound being in a better condition, then go on with that cure, secundum Artem, till to the end of it.

In case the patient is not yet settled for to have his sleep quietly, then use that precious Pill Anodynum.

The Aquavitz which I made mention of in this Chapter, is prepared thus.

Aquavitz
for wound
frost or
ague.

Take the best Aquavitz, without any phlegme in it, called Alcool, lb 1, put it in a glass body, put to it of rasped Harts horn 3 6, mingle with it pulverised Myrrh 3 2, lute the glass carefully that nothing vapour away, let it stand thus infused for eight dayes; then distil gently off the Aquavitz in Balneo, so that the feces may stay dry behind: this abstracted Aquavitz pour on the feces again, distill again very gently, iterate it a third time: put this Aquavitz in a wide glasse of a narrow mouth, then put into it well pulverised Myrrh 3 1, filed Harts horn 3 2, Mithridate 3 8, Camphor 3 2, close the glass exactly; serva ad usum. Having stood a moneth and none of it used, then cant it off, put away the feces, and put fresh materials formerly named into it, let it stand well closed; it is precious, hath great virtues, to purifie the blood, and to expell all venome. Camphor by reason of its penetrative spirit and harmless hot quality, is one of the chiefest things in it.

In case such Aquavitz cannot be had, then you may use Treacle, or Mithridate, &c. but that will not do so well, as the said Aquavitz; for reasons known, needless to be related here. And thus much of the first Wound disease.

CHAP. XVIII.

Of the second sort of the wound disease, called the Shaking or Wound gall; how that is to be discerned and cured.

A wound
gall is dan-
gerous.

THIS also is one of the worst symptoms, which may befall a wound, whereof many dyed, and are like to dye hereafter; because it is hardly well known, and its cure neither known nor used. All which is occasioned, by reason of the foresaid distinction, which ought to have been observed about the Wound disease; but they comprehend all under one cure, which should not be, as you may judge by that which ensueth. As dangerous this symptom is, and

as suddenly it may be a danger of death to the patient; so easie and suddenly is it cured also, provided, the thing be well understood, not else.

This symptom I heard it called the Wound gall, by reason of its form: some call it the shaking or quaking, doubtless because it seizeth on the patient with a quaking, as if it were an ague. For my part I know not what other name to give it, nor why I should hold it for any other: should I call it an Anthrax or no? it may as soon and as easie be cured as an Anthrax: a futher discourse of it I commit to the learned, let them dispute of it so long, till they find a true and proper name for it: if my opinion herein should be required, I should say that it is a special sort of Wound disease, because its cure is almost like the great Wound disease; only it requireth no such great toying.

Why called
a wound
gall: why
a shaking.

Anthrax.

To know and to discern this symptom, note; I know as yet not any fundamental or real sign of it, whereby to discern its coming, not unless it be come. For that reason I will not speak here, what others do think of; doubtless it hath its signes, whereby it may be discerned: every one is to have his own observations about it, if I meet with any I shall be ready to let the Reader know it.

Signes.

Where ever this symptom is fallen in, it appeareth and is conditioned in the following manner. First the patient feeleth a shivering, no other, as if it were an Ague. But upon this shaking there doth not follow neither heat nor head ach, as it is usual in the ordinary great Wound disease (unless the wound be in the head) which distinction or difference ought to be carefully observed, as being of great consequence. An extream misery and pain befalls the wound with panting and beating, making the wound extreamly out of order.

Within the wound where the greatest pain is, there appeareth a bright blister, but somewhat darkish: if the wound be deep, and it being made with a thrust, then the blister cannot alwaies be seen: therefore the judgement of it must be taken from the cold pain, caused by the chilliness,

But

The Aquavitz which I made mention of in this Chapter, is prepared thus.

Aquavitz
for wound
frost or
ague.

Take the best Aquavitz, without any phlegme in it, called Alcool, lb 1, put it in a glass body, put to it of rasped Harts horn $\frac{3}{6}$, mingle with it pulverised Myrrh $\frac{3}{2}$, lute the glass carefully that nothing vapour away, let it stand thus infused for eight dayes; then distil gently off the Aquavitz in Balneo, so that the feces may stay dry behind: this abstracted Aquavitz pour on the feces again, distill again very gently, iterate it a third time: put this Aquavitz in a wide glasse of a narrow mouth, then put into it well pulverised Myrrh $\frac{3}{1}$, filed Harts horn $\frac{3}{2}$, Mithridate $\frac{3}{8}$, Camphor $\frac{3}{2}$, close the glass exactly; serva ad usum. Having stood a moneth and none of it used, then cant it off, put away the feces, and put fresh materials formerly named into it, let it stand well closed; it is precious, hath great vertues, to purifie the blood, and to expell all venome. Camphor by reason of its penetrative spirit and harmless hot quality, is one of the chiefest things in it.

In case such Aquavitz cannot be had, then you may use Treacle, or Mithridate, &c. but that will not do so well, as the said Aquavitz; for reasons known, needless to be related here. And thus much of the first Wound disease.

CHAP. XVIII.

Of the second sort of the wound disease, called the Shaking or Wound gall; how that is to be discerned and cured.

A wound
gall is dan-
gerous.

THIS also is one of the worst symptoms, which may befall a wound, whereof many dyed, and are like to dye hereafter; because it is hardly well known, and its cure neither known nor used. All which is occasioned, by reason of the foresaid distinction, which ought to have been observed about the Wound disease; but they comprehend all under one cure, which should not be, as you may judge by that which ensueth. As dangerous this symptom is, and

as suddenly it may be a danger of death to the patient; so easie and suddenly is it cured also, provided, the thing be well understood, not else.

This symptom I heard it called the Wound gall, by reason of its form: some call it the shaking or quaking, doubtless because it seizeth on the patient with a quaking, as if it were an ague. For my part I know not what other name to give it, nor why I should hold it for any other: should I call it an Anthrax or no? it may as soon and as easie be cured as an Anthrax: a futher discourse of it I commit to the learned, let them dispute of it so long, till they find a true and proper name for it: if my opinion herein should be required, I should say that it is a special sort of Wound disease, because its cure is almost like the great Wound disease; only it requireth no such great toyling.

Why called
a wound
gall: why
a shaking.

Anthrax.

To know and to discern this symptom, note; I know as yet not any fundamental or real sign of it, whereby to discern its coming, not unless it be come. For that reason I will not speak here, what others do think of; doubtless it hath its signes, whereby it may be discerned: every one is to have his own observations about it, if I meet with any I shall be ready to let the Reader know it.

Signes.

Where ever this symptom is fallen in, it appeareth and is conditioned in the following manner. First the patient feeleth a shivering, no other, as if it were an Ague. But upon this shaking there doth not follow neither heat nor head ach, as it is usual in the ordinary great Wound disease (unless the wound be in the head) which distinction or difference ought to be carefully observed, as being of great consequence. An extream misery and pain befalls the wound with panting and beating, making the wound extreamly out of order.

Within the wound where the greatest pain is, there appeareth a bright blister, but somewhat darkish: if the wound be deep, and it being made with a thrust, then the blister cannot alwaies be seen: therefore the judgement of it must be taken from the cold pain, caused by the chilliness.

But

But in case the foresaid blister be not in the wound, but without or beside it, then is it brown, of the bigness of a pea, is full of blood, and feeleth hard, with a hard swelling round about the wound, having no ill colour. If these be let alone, then the said blister falls again inwards, gets a hole, leaving a scarre after it, very white with a darkish ring; presently after there appears black spots, and look like the cold fire: by and by there followeth upon a great heat, and vehement head ach, then ensueth a palsie, next is death.

Note.

There is exactly to be observed also, that if a patient is taken with a Wound gall (so I name it now) he hath no desire to turn this and that way, and as they say to hop up and down, as those do, which are troubled with the great Wound disease: but he lyeth still, and stands out his time, not without great complaining, by reason of the continued increasing pain. For if he stirreth then his pain increaseth, and is forced to be quiet against his will.

Cure.

Touching the cure of this symptom, it is thus: Take of the prescribed Aquavitæ \mathfrak{z} i, Oculi cancrorum \mathfrak{z} i, which must be well grinded; mingle these, let the patient drink it, cover him well, cause him to sweat in his bed, for this sweat is of great concernment: if the patient be loth to sweat; or is difficult for him to do, yet however you must keep him to it; for no sooner the sweat cometh, then he will be at ease.

About the wound apply the Anodyne ointment, and let some of it be put into it, in case you do not see the blister within: apply to the wound a stiytick plaister, in which must be no Rasom, or any such thing, which is of an attractive quality; for the patient would thereby be put to more smarting pains, which would prejudice the party.

As soon as he hath done sweating, then plebotomize him next to the place where he is wounded, and let the vein run reasonable well, doubtless the pains in the wound will be allayed, after which you may cure the party with more facility. Let him forbear meats hot of spices.

And

And because the blister, (being broken by sweating, and is no more mortall) maketh still the wound disformed, so that it groweth brown and weeping, then it will be requisite, that you use the brown ointment for one or two daies till the wound be well cleansed, then go on with the cure according to Art.

CHAP. XIX.

Of the third sort of Wound disease, called the pulling and unquietness in the wound.

THis Symptom is known unto expert Surgeons; and it hath its name answerable unto its deed. I should have written of it afore, before I had told of the other sorts, and that the rather, because the great wound disease, which I have described at first, commonly is caused from thence: but I purposely delayed it to this place, for some reasons. For though the great wound disease (thus I call the first sort for distinction sake, and others also call it by that name) is caused sometimes of or by this last sort, (which for some reasons I call the unquiet:) yet this also is true, that the wound disease for the most part cometh into the wound, whereas the unquietness hath not yet been felt in the wound. This unquietness, though it be bad and dangerous enough, yet is it no so perrilous as the great wound disease; therefore it requireth the less care than the other, in respect of the pains, which are not so grievous.

Touching other things, together with the cure: there is found also a great difference easie to be discerned by him, which taketh notice of.

From whence that unquietness cometh into the wound, ^{From} is needless to make any further discourse of it. Even the ^{whence that} same cause, which causeth the great wound disease, ^{Unquiet in} causeth also the unquietness in the wound, and that sooner and suddainly: therefore the unquietness cometh sooner into the wound, than the great or first sort of wound disease ^{the wound.}

ease which usually cometh then, when the patients wound beginneth wholly to come off at the end.

Signes.

When that inquietness is coming into the wound, then shiverings and chilliness runneth over the patient, which are not so vehement with quaking as other sorts of wound diseases usually do. This cold shaking runneth about a long time in the body, afterward it setteth to the wounded member or joint, from thence into the wound, where it causeth horrible pains, with heat, cold, insomuch that the patient doth not know, what ayleth him.

Why it is called inquietness.

The wounded member he is not able to rest it any where, still shifting from place to place, hoping to find ease in one place or other. Therefore this wound disease is called inquietness, because the patient still moveth the wounded joint, like the jack of a watch doth move.

Very dangerous if a wound in the head.

If the wound be on the body, its not the better; because the patient will stir himself to and fro, and return this and that side, whereby great inconveniency may be caused. If the wound be in the head, then is it very dangerous, if it should hold him long; by reason of the Cramp, Palsie, &c. which easily is incident also. The party cannot sleep, though inclined to it; and if in a slumber, yet that panting and beating rowseth him to an amazement, pulling the wounded joint after, the which increaseth his pain: it is a most pittiful thing to behold such a party.

If this symptom be not opposed, then there ensueth an extraordinary heat, and one inconvenience followeth after the other, at last the great wound disease is incident into it; which proveth a mortal sign: from that, I never saw any come off, or recover of it, though all means are used. For these two symptoms meeting are deadly enemies one to another, make a quick dipatch of the patient, not staying for any medicament.

Therefore this inquietness must be opposed without delay, and to allay all the smarting paines of it, not regarding the joint water or changing of the colour of the wound, swellings, or things about it. Other such accidents may be soon mended, if the restlessness of the wound be allayed, then all the rest will soon be mended. The

The process is thus: Take the brown Ointment, cover a tent with it, thrust it in near to the bottom; but if it be a stab, then convey it into with the siringe: then take the Opodeldoch, and apply it thick and broad, so that all places may be covered a hand breadth about the wound, and to rye it: place the party into a warm bed, minister to him a spoonful of Rose water, or Barner water, and six grains of the Pill Anodyne; half an hour after let him have of the same pill in a convenient vehicle, of four grains: stay an hour, and see whether the patient taketh his rest, if he doth, then let him rest; if not, then give him four grains more of that Anodyne, and tarry an hour and a half. This must be iterated till the party sleepeth, which will be at the third or fourth time.

When he sleepeth, then cover him warm, not too hot, but as much as he is able to endure: then in his sleep he will sweat very much: if he awakneth after five, six, seven, or eight hours, then doubtless all his pains, together with the anger, heat, cold, and wound disease will be gone, and the party refreshed.

Fear not that the said Confection will endanger any way the party; for it may safely be used from twenty to twenty five grains.

Some Surgeons use cool things to wound diseases, as the juice of Cicuta, and of hyssciamus, the which they apply to the wounded member, of this I cannot approve; because these things cool the wound so much, that it cannot be reduced to any true temper of healing. These usually cause the Cramp, which they naturally use to do. Coolers are not proper for wounds. It is a better way to shorten the pains of wounds, than to seek waies to have them prolonged.

Dose of the
Anodyne
confection.

Abuse.

CHAP. XX.

Of an accident in a Wound, which is almost like to the wound-disease.

Tickling in
the wound.

THERE is another symptom incident to Wounds, the name of it I have not yet told. I have seen it often, and found it in my practick, that wounded parties have felt great heat and burnings in their wounds, which when it was gone, it was as if many worms were crawling in the wound, whereby they felt great pains: as soon as that pain was gone, the heat returned, and then the other tickling came in the place of that; and thus the one gave way to the other.

That party was like unto those, whose fingers were killed by a hard frost, and coming into a warm place, they are benumbed or frozen.

Cure.

This symptom be it as painful as it will, yet it longeth for a speedy medicine. For I have seen it, that as soon as distilled oyl of Bayes, or red oyl of Turpentine was put into the wound, and well annointed round about with it, then the symptom was quieted, and never return'd

CHAP. XXI.

Of the Prunella in the Wound, how it may be discerned and cured.

IT is strange, this being so dangerous a symptom, whereby both poor and rich were spoiled, and many dyed of, should be so little known among Surgeons, and so little of it extant in print being it is usually incident to such wounds, that are in dangerous places. Some that knew this symptom, called it Prunella or Brayn, for no other reason, but because it is like to that Prunella, which befalls the throat.

The

That expert Philosopher *Theophrastus Paracelsus* writeth Why called Prunella.
 that he had seen a patient, which was mightily troubled with the Prunella in the wound, insomuch that a kind of a thick skin like a ragg could be pulled of the wound, just like the skin that is peeled off the tongue of one that is troubled with the Prunella in his throat. I beleeeve him; but I rather marvail, how the party held out, and was not quite spoiled. I never saw it so much in any parties wound, but he either dyed of, or else the joint or member was gone and lost. But God be thanked, that where ever that simp-
 tom was known, and proper medicines were applied, such wounded parts were for the most recovered.

How and by what signs this Prunella in the wound is discerned and known, are these, viz. Signes. A wound which gathers no matter in its due time, but keeps very dry, without corruption, then it signifieth a Prunella, a strong coming on of it.

If the wound on the top beateth much, and sometime it weepeth, or some moisture it hath, then is the condition of it the worse.

If the wound looketh red, like dried or *Bartholomes* beef, and the lips of it turn about and are hard, it is a sign of the Prunella, and a forerunner of a wound disease.

A wound being on a perrilous place, yieldeth a grayish matter like slime, after the fourth, sixth, eighth or ninth day, and it setteth close to the wound, and will not be cleansed, unless by forcible means, and the wound also looketh round about like a skin, and the patient also is hot, then is it a sure sign of a Prunella.

If a great muscle be wounded, and the joint also be shrewdly hurt, and that wound is loth to afford any corruption, besides that there is a rank smel in the wound; it is a sign of a Prunella.

In other wounded parties these following signs are apparent: Other signs. the party is still desirous to drink, is costive, and troubled with flushing heats. His urine and stools and judgment will be little informed: if the urine be red, it commonly signifieth a Prunella to be at hand, and sometimes also a wound disease is at hand. Note;

Note; two, three, or more symptoms do meet in a wound, and appear all at once: it happeneth also that a wound is very dry, yeilds no matter but onely a little water, its lipps are hard and turned outward, are thick and red, round about disformed and indisposed, and a slyme in it, no great heat and pain the patient feeleth.

Further note; if the wound be in an outer part, (for that about the bodies bulk is of another nature) and the party feeleth panting and pulling pains in that joint or part, it is a sign of the cold fire, which usually hath its cause from the Prunella: if it be not timely opposed.

Cure.

Touching the cure of such wounds, note; if prunella be discerned and known in a wound, by some of the said signs, then the patient in the first place must be phlebotomized, as you shall see occasion.

It would be well if it could conveniently be, that a vein were opened under the tongue; for if a party be troubled with Prunella, it is soonest discerned by the throat: and so it will soon shew it self in the wound also, if it was in the mouth or throat: at which some Surgeons are estranged, and others do slight it: but no sport for the poor patient.

After phlebotomizing, take water of Salarmoniack, mingle it with half as much of Rose Vinegar, make it warm, sringe the wound with it, if it may be done conveniently: afterward use this following Ointment to the wound or stab: Take of well scummed Honey $\frac{3}{4}$, Vinegar of Roses and of Juniper, ana $\frac{3}{4}$, phlegme of Vitriol $\frac{3}{8}$, mingle these, make an Unguent of and use it; and apply a defensive plaister without about the wound, but on the wound you are to put a stiptick plaister.

But if the wound be very angry, then the following Lavament is to be used: Take of Rose vinegar lb 3, of Myrrh $\frac{3}{2}$, mingle these and let it boil together for an hour, then ad to it of Camphore 3 1, of Saltpeter $\frac{3}{4}$, these must be well beaten: dip cloths in it, wring them out, lay them four doubled and warm to the wound, let them be big and broad enough; but the wound must be covered first with a
good

good plaister before the clothe be applied: if these grow cold, then apply other warm ones, and this must be iterated so long, till the wound be well warmed, then apply a stiptick plaister,

If a wound by these be brought to a good pass, and sheweth a true and good sign, then go no further on with these medicines: then you are to take good wound Ointments and stiptick plaisters: But how you shall know that a wound returns to a right tune, it is thus: The patient as well as the wound altereth: and the best sign whereby to know it is, when there is no more pain in the wound, and looks ruddy, and is soft and tender.

Signs whereby is known a wound to return right.

The patient must take heed of drinking of wine as much as of poison, and to shun all meats seasoned with spices aromaticall. Let him drink Barley water, wherein must be dissolved prepared Saltpeter, (of which hath been spoken above) to five pound of water you are to take half a dram of the said Saltpeter, it will allay his heat, as well that in the wound as that in his body.

About the dressing of his wound, and the applying of the medicines, you are to do it in that manner, as you heard above about wounds which were exiccated by the Suns heat.

Out of these in my judgement may be enough discerned, that it is of great concernment, that a symptom in a wound be well known, then it will fall the easier to cure such wounds. It is most certain, that these symytoms in wounds will by no means admit of any greasie medicines. Now those that do not know it, and go on in their old waies, applying their wound ointments and plaisters, these will do little good, nay rather do mischief. There ignorance is in fault, why so many wounded parties loose their lives; especially if the wound be in the head, or any other perillous part: and when such Surgeons have done their best, it is at the least (God blesse patients) to the losse of the wounded member.

For your better instruction I wil set down here, how this water of Salarmonick is prepared: Take of Salarmonick

To prepare
water of
Salmiack.

nick one part, of white calcined Tartar one part; mingle these together, sublime them to a powder, according to art. Let this Salmiack sublimed be dissolved to a water, in a celler or other cool place.

Verdigreice
is dangerous
here.

In case you are to go into the Country with it, then is it better to keep this sublimite in a powder, and carry it not dissolved. And coming to your patient, you may dissolve it in Rose water: and in case you cannot have neither Rose water, nor Aqua Nenupharina, then take fresh Well water, which for a need may serve the turn, especially in a Campe, where prunella usually is brief among Souldiers.

One rare thing more I must relate, viz. the phlegme of Vitriol, or Vitriol it self, is very good for such wounds, whereas Verdigrice is very hurtful to them, though both are made of Copper.

The wounds and the medicines differ here in their conditions: the one affecteth wounds, the other disaffects them: or the one is a friend, and the other an enemy unto them, &c. Therefore I say this, that Alchymie is worth to be praised, whereby medicines are prepared in that manner, as occasion doth require.

CHAP. XXII.

Of the Cramp, Palsie, Apoplexie, &c. how these Symptoms befalling Wounds, must be cured.

CRamp is a dangerous symptome, especially in Head wounds, in the neck, throat, &c. where wounds are in dangerous places, there the Cramp is the most hurtfull.

Cause of
wound
Cramps.

Cold causeth the Cramp in a wound, either by that cold which from the raw way is come into, or else the patient was kept too cold. It is most certain, as soon as the arteries and white veins have felt but the least cold, presently shrink upward, and cause the Cramp. Therefore the Surgeon ought to have a care, that when he is about to dresse the party,

party, to let the wound not be open too long, but dresse and bind it presently, go not beyond the allowed time of dressing: and the patient must be looked to, that he commit no fault in fretting and vexing at one thing or other. There are other causes of the Cramp which we now pass by.

Touching the cure of the Cramp, note; if you discern the Cramp in a Head wound, then alwaies annoint the patients back and neck with proper oiles, of which in the description of Head wounds I made so often mention of, viz. you are alwaies to annoint his back and neck with the oyle of Cammomil, of the oyl of Lumbrici terrestres, &c. And it were not amiss to annoint him well with Petroleum.

Cure in
head
wounds.

The best oyl for such is the oyl of Amber, but is not fitting to be used *per se* or by it self, but should be mixed with oyl of Olives, or oyl of Majoram: it allayeth the Cramp, keeps off the pallsie, caused by the Cramp usually.

But if the Cramp be in a wound of an outer joint or part, where you suspect some sinewes be hurt, then mix your wound ointment with some of the red oyl of Turpentine, and apply upon a thin stiptick plaister. Annoint round about the wound with Tile oyl, or with distilled oyl of Bayes, and bind him warm. And in case the Cramp will not yeild to these means, and is on an outer part, as hand or foot, then foment the wound with warm Lye made of Beech or Oak ashes, wherein are boiled Cammomil flowers, or Saint Johns-wort: Being thus bathed or fomented for half an hour, and is well warmed, then presently dresse it, doubtless the Cramp will cease. But take heed you do not cause the Cramp to return, and let the patient also be warned of it hereby.

Cure of the
outer parts.

In such cases I have seen Piony root to be often used for the Pallsie, wherewith indeed some good may be done, if seasonably digged: if not, then I found that these roots did no good.

Pionie is
good if dig-
ged season-
ably.

It must be digged in *April*, when *Soil* is in *Aries*, and at a plenilunium before the rising of the Sun. It must be dried in the Ayr, not in the Sun shine, then they are right, and

and proper to be hangd about the party : you may make of this green root either a sirup or a conserve, it will be the more effectual.

Touching Palsie, Apoplexie, &c my intent is not to write much of it, being it concerneth Physitians more than Surgeons. But whereas the Cramp is commonly a cause and forerunner of the Gout, Palsie, and such like symptoms ; there seems a necessity to lye upon a Surgeon, to have some judgement of it, that the better he may oppose and cure it, therefore I could not chuse but to give an hint of it.

Cure.

I know nothing better to allay this symptom, than a well rectified spirit of Vitriol : I must confesse there are several pretious waters, powders, &c. good against the Palsie : I I reject none of these, but this I hold to be none of the least.

To make
spirit of
Vitriol,

Spirit of Vitriol is made thus : Take crude Vitriol which is pure and green, put it in a coated glass body, set it in an Oven into the open fire, apply a Receiver, and lute it well : let your first fire be gentle, encrease the fire by degrees, get over all the phlegme, when the retort hath been red hot a good while, and no more water comes over, then let the fire go out, and let it be cold.

That phlegme which is come into the Receiver, containeth that body, in which is the spirit of Vitriol, for he is not in the Colcotar as some suppose ; because in that there is no more spirit, but a meer oyl : for if you take that spirit of Vitriol, which is made of the said Colcotar, and you abstract all its spirits in a glass body, then on the bottom you will find nothing but a corrosive oyl of Vitriol : whereby we see that no small fault is committed herein ; for the one is not comparable to the other in its vertue.

That spirit of Vitriol is pure and clear, like rock water, is acide and not heavy, and it is made thus : Take that phlegme you have received in the Receiver, let it evaporate in Balneo Mariz, on the bottom you will find the spirit of Vitriol ; abstract it in sand a second and third time, in an Alembick, the oftner the better : if any phlegme staved with it, the same you may separate at any time. And if you will

will have it yet better, then put to it half as much of spirit of Wine, put it into a doubled glass body, lute it well, set it in Sand for a moneth into digestion.

This is the true Spirit of Vitriol, which hath no corroding quality, and may safely be used; and specially it is a soveraigne thing for the Head, when an Apoplexie, Palsie, &c. is feared: and if this Spirit be mingled with Magistene of Pearles and Corals, then nothing comparable unto it, for the said diseases.

That Spirit thus mingled may be given to those, that are troubled with a wound disease, or with a Prunella: It refresheth and corroborateth the inward parts, principally the head and heart. It serveth also for a pretious vulnerary potion. The use of it is, to be taken fasting four five or six drops in one ounce of distilled water of Stellaria: but the soveraignest is, that grass green oyl of Vitriol; which, being it cannot be had every where, I forbear to speak any more of it.

CHAP. XXIII.

Of consumed, withered or updryed Wounds and Members, how Surgeons ought to deal with them.

A Withering, is a Symptom which is incident to joints wounded, commonly to armes or leggs: as much as my experimental knowledge will afford, I shall faithfully communicate it.

This withering or consuming is easily discerned, because the skin on the outer member looks blacker, than that on the sound member; the causes thereof are severall: either when muscles, sinews, joints are wounded by a fall, blow, thrust, &c. there may be an external cause of it, though not any wound happned to that part: as a cold humor falling into, or other diseases, be it in the shoulder, hip, knee, &c.

From whence this withering comes!

Exiccation
Adridum
Membrum.

An Ariditie comes thus also : a parry being wounded, and by the Surgeons neglect the joint water did run too long. this ex:ert Surgeons call *Membrum aridum*, or an exiccation. For the joint water is a food, whereby all joints and members are susteined. Now if that joint water did run too long, then thereby that part was bereaved of its natural humor, without which it cannot sublist, it being so, how can it chuse but to decrease and consume.

Comparison.

The condition of this joint water is like a tree, which is opened at the prack in the spring, whose sap runneth out where it is cut, and so the tree withereth and dryeth up, and cannot be recovered. So if the joint water be run thus long, whereby that member is dried up, and grown hard, stiff and inflexible, then Surgeons bestow their pains in vain about such cures : can do no more to it but to allay the pains that are still in it. But if it be not gone too farre, then be not affraid to fall on the cure, and be helpful unto nature.

Cause of
this Ariditie.

There are several causes of this witheredness, all of them I shall not relate, one in general I will name, touching the occasion of the up-drying.

That updrying for the most part comes from an oppilation of that member, be that caused from what it will, either from pains, diseases or woundings. For where there are great pains in a member, which have held a long time, then it comes to an updrying; because that sick member cannot digest that food which Nature afforded, and causeth an oppilation in that member; no marvail then if it withereth.

It falls out also, when a member is wounded very deeply, there may be incident there such an Ariditie, because the natural balsam hath not its true course, and it is impossible for Nature to skip over the wound, and that which thus misse, doth not go well. There may also fall a humor to a member, which though it be not wounded, yet it may be obstructed, and so causeth an exiccation.

More causes could be quoted of such updryings, but it is needless to do it, because their cures differ very little : for Aridities caused either by a fall, blow, thrust, or by any other

other occasion, all these are comprehended under one cure. Those cold witherings by a short, fall, &c. whereby great pains, and consequently a consumption of that member is caused; that hath a peculiar cure, differing but a little from the other: it may be said of the rest also.

Touching such cures, we will first of all speak of that, which Surgeons call *Aridum membrum*, caused by the running out of the joint water, you must conceive, that I do not speak here of an aridity, which is come unto an extremity; for that which one neither knoweth, nor is able to cure, why should he write of it. I will speak here only of a consumed member which is not gone too far, where there is yet great hope of its recovery: Do it thus.

Cure of *Aridum membrum*.

Take head, feet, lungs, and liver of a Goat, or of a sheep, or Calves gather, cleanse the head and feet well from hairs, wool, &c. put these together into a great pot, put alike quantity to it of water and white wine, let it boil that all the bones fall off from the flesh, throw away the bones, the rest cut small, put it into that liquor it was boiled in, boil it again to a mash: with this liquor the patient must be fomented as hot as he can endure it. But in case the withered member could not conveniently be bathed, then spread that mash on a thick cloth, apply it like a Cataplasm, as hot as the patient can endure it: as soon as that groweth cold, then apply another of the same, as warm as he can endure it. That which was used must still be put into the pot, that you may not want materials for Cataplasmes. This must be continued so long, till the patient confesseth that it hath warmed his member very well: this warmth may hold half an hour or more: which being done, then take the following Ointment, anoint the withered member at a coal fire, do it downward, still warming one hand after the other, so long till the said member be warmed well thoroughly; then lay on it a plain plaister, made of Wax and Hoggs grease that member and the patient must be kept warm: forbear to use any Oxyeroceum or other hot plaisters. Go on with the former so long, till you see and perceive that the member is at a mending hand, and getteth strength.

When you perceave, that all the pain is gone, and that member beginneth to prove again, then use other Ointments against shrinkings and updryings; which are found at the Receipt for ordinary Consumptions and witherings: all the skill lyeth herein, to stay the consuming, and to get to the member its natural nourishment, which being brought to pass, then you may easily go on with the rest.

The Ointment above named against withered members is thus: Take Cranes grease, Foxes grease, ~~and~~ $\frac{3}{4}$ 2. grease of a young Hogg $\frac{3}{4}$ 1 lb, mingle these together, make an Ointment, and use it as you have heard.

Reader out of these you may gather, what the fundamentals are of my cure about exiccated members, which exiccation thought to be a withering, yet it differs from other exiccations in the cure. For the medicines used here, are not of hot qualities, as those are, which they use to other withered members. Now this difference not being understood of those which undertake such cures, how can it be otherwise but that many patients are spoiled and utterly undone.

I have much read, seen, and heard of withered members, and made use also of such medicines, that were usual then, but afterward finding better, I left the other: some used to whip the dryed member with Juniper twigs, or Horse tayles, or with Nettles; others rubbed the place with Sack-cloth, &c. others annointed the party at a good fire, others used Cupping glasses, others used Fomentations, &c. all these ways I do not condemn, because my self made use of some of them.

I will impart unto you my way, with the reason thereof.

I hold the flesh of every sound body hath its growth from abundance of blood and natural humidity: my chiefest endeavour was, to imitate Nature herein, and to restore flesh to a withered member: and to convey blood and food to it, by rarifying the same, by stirring and moving it, now by the lifting up the hand, then by hanging it down: in which way the blood is made to come forward and backward, and
by

by stroaking it may be lead further. To which end I took in hand such a withered member, and stroaked it downward, not upward, anointing each part thereof with Wound Ointment, all downward, and stroaked the blood and humidity down to the member, in the manner of milking, afterward rubbing the member so long, till the very marrow in the bone was warmed thereby, at which work my hands also were heated. This stroaking downward to the hand or feet I continued for an hour, bringing the blood into the fingers or toes, and forced the blood to the extreame parts as much as I could, insomuch that the toes or fingers began to swell from the abundance of blood. After this stroaking I applied a warmed Oxycroceum, well and thick spread, laid it on gently only to keep to the part, and let it have ayre and room enough, for the blood and natural humidity to come unto. That member I bid the patient alwaies to hang it down, not upward, that the blood may the easier get into. I annointed the party twice a day, which saveth toying to the party: when the member begins to grow again, then the party felt no pain when annointed. That witheredness caused by a fall and not by a fracture, I have annointed twice a day: if a member did consume away, by reason of a cold or other symptom, then I annointed it four times more, than if it had been caused by a fracture. If a hand or foot was swelled, but the part above was not swelled, I liked it well, then I knew my labour would not be ill bestowed: when that member felt a tickling or tingling, it was a sign of healing; and when that member at the undressings grew warm, and the veins looked blew, then I proceeded in the cure. It fell out often, that a great pain was come into a hand or foot, which did not much trouble me, because it was frequent with me to have such cases, for that pain upon slighter proceedings passed away: after that I went on with rubbing and annointing, and with Gods blessing the cure was performed.

For other sorts of withered parts, which almost require one process, make this Unguent. \mathfrak{R} Bucks grease $\frac{3}{4}$ 1,
Oyl

Ointment
for other
consumed
parts.

Oyl of Bayes $\frac{3}{4}$ 3, Oyl of Juniper $\frac{3}{4}$ 6, Oyl of Spicke 3 1, Hoggs grease $\frac{3}{4}$ 2; melt these together, adde to it the following pulverised pieces: of Savine $\frac{3}{4}$ 1, Nettle seed $\frac{3}{4}$ 6, *Alumen Plumosum* $\frac{3}{4}$ 6, these well pulverised and stirred among the other, are to be made to an Unguent. This is used as the other was above related, about withered members. The poulteffe above mentioned made of a Sheep or Calves Gather, is needless here: and use here Oxycroceum, instead of the plaister made of Wax.

Abuse.

I must needs speak here of faults, ordinarily committed; They usually take *Gummi Euphorbium* to Ointments against withered members: which is here both useles and hurtful. For it consumeth all natural heat in that member which is annointed with it, it dilateth and dryeth up the skin, which ought not to be at any withered or consumed member.

These men suppose because that Gum is hot, therefore it is good here, when it is no such matter. True, hot things ought to be used in such cases, but those hot things must have a moist quality also, to open the opilations of that member, a contrary quality sheweth here that Gum.

Many other things could be quoted here, to be used against consumed members, but I wave them, being they are usual and known symptoms.

But the exiccation of a member is not known so well, how it ought to be cured, many abuses are committed in its cure, and many dangers are caused by ignorant Surgeons. I shall be the more exact in the description of such cures, the rather, because such exiccation may befall a member which was not wounded, nor bereaved of its humiditie by the joint waters running. A hot chollerick humor may fall into a member or joint, whereby such exiccating heat may be caused, natural moisture exhausted, whereby a member consumeth away. For such cases the ordinary Unguent against shrinkings are naught, making the case rather worse than better.

There are other means found against withered members, as hot Baths or Pepoirs, &c. Some Unguents, Plaisters, Aquavits, &c. There are also Topical medicines, viz. Levisiticum,

vissicum, gathered in *April*, when *Soll* entreteth *Aries*, and *Ellebore niger*, and the like, which sometimes prove effectual. There are medicaments also, which for that purpose may be used inwardly at the increase of the Moon: but these are good against ordinary consumed members; but not against exiccated ones: as the *Paracelsian Water* made of *Bloodwort*, which I have made use of, and found it to do good.

Other means against withered parts.

Such like things are successfully used against withered members; but this order ought to be kept also which you heard given about consumptions or spoiled members. To speak really, the Unguents are not so much regarded, as their true preparation and careful application, to work them strongly into the place affected. Therefore let Surgeons use, what they have learned, and known in their practick, applying things duly and discreetly; therein lyeth the chiefest part of their judgement.

Note; As long as a wound is not healed, and great pains are in it, a Surgeon will do little good, unless the pains in the wound be removed. In like manner if a member be out of joint, the same must first of all be well set again; if you do not so, then your cure is in vain: Nature desires to be unhindered in her course. If in this manner you be carefull about a wound, that no pain be caused, nor any joint water running be obstructive, then the less danger will be about the consumption of that member.

I cannot chuse but to reveal a Secret, very good against all manner of consumptions of members, none comparable unto it: but my expressions will be according to this Art, to which every one must take his course, and those that knows to work with fire will agree with me. For it is an universal medicine against all consumptions, it opens pores and obstructions in one day more, than other Unguents will do in a whole moneth; it purgeth sinews, which of necessity must be done here.

A Secret for all Arthickes.

Take of fixed Allom 34, I mean not crude sharp or drawing Allom, but the mild and soft Allom which is taken out of its own earth; mingle with it dissolved or fused

sed Salt, very purely beaten, three times as much ; put it in a pot or other vessel, lute it well, keep out all ayr, set it in a reverberatory, put fire to it of the fourth degree, the flames must beat upon twelve houres long, all must be red hot, then let it cool ; take it out, open it, the matter which you find on the bottom, cast into four quarts of Well water, it will dissolve, that which doth not dissolve, keep and dry it, put it in a glasse, pour on it Alcool vini, (which is an Aquavita distilled subtrilly from all phlegme, so that being put in a vessel, and kindled, that all goeth away with the flame, no liquor staying behind) let it be covered two fingers deep about it, and so keep it for use : when you are to use it, then mingle some of it with Oyl of Bayes, or others, your Ointment is made of, annoint the consumed member with it once or twice, no matter whether the Moon be new or at the full : this annointing will make the member swell a little, but no pain at all it causeth : this being done, then go all the consumed member over, the member and joint will recover its former strength : keep that member warm, let it take no cold.

A Secret
for the Sci-
atica.

I tell you that this Secret is so effectual, working upon all manner of opilations of joints ; it will help also a Sciatica, be it caused by heat or by cold, of a short or a long standing.

My intent was not to reveale that Secret against the Sciatica, which followeth ; but having such a near affinity with the former, for the publick good sake, I will reveale it.

Take the foresaid Water, from which the foresaid Powder was separated, make it warm, rub the hip bone well with it ; then take the above said Powder prepared, mingle it with Oyl of Bayes, make an Unguent, and annoint the affected place with it once a day, and do it for two daies : then take of the Water, where that matter was separated from one part, of Vervain and Centorie ~~and~~ three parts ; boil these in a sufficient quantity of Water for a bath, let the party be fomented with four or five times, for one or two hours, (that must be in the decrease of the Moon) then is it enough. Whilest the patient is in that stove, let this

this following drink be prepared for him: Take of Cardus Benedictus $\frac{3}{4}$ l, of Calmus $\frac{3}{4}$ l, Flowers of Centorie $\frac{3}{4}$ l B, Wormwood $\frac{3}{4}$ l, Cinnamon $\frac{3}{4}$ l, pour upon these six quarts of Wine, let him drink of it, and no other; or a very little of Barley Water, in case the party be very dry; Thus the Sciatica will soon pass away, make no doubt of it: though the hip were out of joint, it will soon turn inward again to its right place, without any further purging, fomenting, wood cures and such like, which are otherwise made use of in that case, though to little purpose.

Thus I close this third part of Symptoms, let no man imagine that I have written of all Symptoms, because there are many which have not been touched at all, neither was it my intent to do it. But these are the chiefest, and of greatest concernment: he that knoweth these aright, and can handle them well, he may easily deal with the rest; if so be he have judgement in Surgery.

Finis, of the Third Part of Symptomes in Wounds.

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The



The Fourth Part.

**Treating of all kinds of Balmes,
Slaves, Plasters, Ointments, Oyles,
Blood-renchers, Potions, Tents, Corrolives,
&c. which are used for Wounds, & have been
mentioned hitherto in the former parts of
the Book: How they are to be Artifi-
cially prepared, and used well.**

This Fourth Part is called the Book of Cookery.



Courteous Reader, it is well known, and found
it so perhaps by your own experience, that a
bad Cook may spoile good Meats, over or un-
der seasoning them, though in themselves
they be good and wholesome, yet by his bad
cooking may be very unwholesome: and on the other side
Meats that in themselves are unpleasant and unwholesome,
may be dressed so that they may safely be eaten. Even so is
it with Medicaments, and those that prepare them: For
Medicines which in themselves are good and usefull, are by
those which are to prepare them, made peffiferous and un-
safe to be used: on the other side there are some Druggs,
which in themselves are naught and poisonous, may in their
prepara-

preparation be so rectified, that they prove wholesome and effectual Medicaments.

Therefore those that profess such an Art, as to prepare Medicaments, must do it so, that their compounded Medicaments may be proper and safely used to Wounds, Sores, Ulcers, Fistulaes, Cancers, and that their Medicaments may agree with Wounds, &c.

In consideration hereof, I would not could not intermit, to annex to my practick of Surgery this fourth Part, which for some reasons I call the Book of Cookery. And that Novices in Surgery may know how to deal in Salves, Plaisters, Vulnerary Potions, Ointments, &c. the which to do I am the more moved thereunto, because in the precedent parts I named some Ingredients, but did not set down the composition of them, nor how they were to be prepared, and directed the Reader to this fourth Part.

Courteous Reader, do not think, that I will write of such things here, which are known all the world over, as how Oyl of Roses, Oyl of Cammomil, and such like, are to be made; which would not only raise the Book to a great Volume, but would be needless also and superfluous: therefore if I give only hints of plaisters made of raw Druggs, is the reason, because their compositions are common and very well known. Other things which do not lye so open as yet, and their preparations, are not known to every one, these I will reveale and impart faithfully. And then will I speak of things also, which want corrections, which though they be good, yet have some bad things also, for which cause they ought not to be ministered unto patients, unless their good and pure things be first separated from their impure parts; and that is commonly called correcting, when a harmless thing is put to that which is dangerous, which is a great fault to do so, and be warned that you beware of it.

CHAP. I.

Of Wound Balsams, Ointments, Plaisters, Oyles, &c. and among the rest of that pretious Brown Ointment, which was so often mentioned hitherto.

Distilled
wound balsams.

I Never made use of any distilled Wound-Balsams, neither do I greatly esteem them, because usually they are too hot; and are not only dangerous in Head wounds, and useles in other wounds, but also by reason of their too violent penetrating quality, are poisonous to Head wounds.

Use of redd
oyle of turpentine.

But if sinews are cut in a member, there I praise the red Oyl of Turpentine, and hold it to be very good.

Some Surgeons are accustomed to use Wound Balsams to all Wounds, which I do not approve of; advise them rather to forbear, though many pretious Ingredients come to their composition, yet they are made too hot in the distilling.

Wound-oyles wound ointments.

I like and approve better of Wound Oyles, and of Wound Ointments, than of Wound Balsams; I know no other difference between them, but onely that the Ointments are somewhat thicker, and may more conveniently be carried into other places, for that reason I rather used Ointments for easier carriage sake, and when I had use for them, I dissolved and applyed them warm, by letting them run into the wound.

Clear turpentine

Note also this difference about Wound Ointments: some Wounds are better pleased with this Ointment, and others are disaffected unto it: which may be seen by that, when an Ointment causeth pain in a Wound; for that reason I approve not so well of clear Turpentine, to be used thus crude into the Wounds, especially to Head wounds, because it paineth them. The dry Turpentine, or the Gum of Larix is better for this purpose, if it be well washed.

Of Wound Ointments in particular

Note about Wound Ointments; there are so many things

things used hereunto, that they hardly can be named, because Surgeons hold this or that, and as many heads so trees. they varie herein. Several sorts of Herbs, Roots, Flowers, Seeds, Fruits, are used hereunto; also all sorts of Gums, of Apple trees, Cherry trees, Juniper trees, Mastick, Frankincense, &c. Balsam of Apples, &c. Who is able to relate all?

What matter it is, how many things are used to Wound Ointments, as long as the Ingredients are good. It is not so great a skill to heal wounds, because one Salve or Ointment if good, may heal many wounds, though one wound is not healed so soon as the other, yet it will be done in due time. The chiefest thing is, that a Surgeon have judgment in these things, and be able to discern when any symptom is coming, that it may timely be opposed or prevented.

Many Surgeons use these Gums, Bdellium, Opopanax, Serapium, and such like, for to dresse wounds withal, of which I do not approve, because they are of too strong an attractive quality, which ought not to be used to wound Ointments, being more dangerous with their too much drawing.

Other Surgeons make use of Unguentum Apostolicum, which is an absurd thing; if it should be used to fresh wounds whereof I speak here, such like gross Compositions, usually some made much of, I could not forbear to give warning of it. My Wound Ointments which to this day I made use of, are few and plain, but are well prepared, which I will faithfully impart to you.

Take of good white Wine *Wound Ointment* 1 pound
 Take of white Rosin 3 1/2 sweet May Butter 3 1/2
 the juice of Stellaria or Starwort 3 1/2 the juice of Sanicle and
 Winter-green of Pyrola 3 1/2 Salts Oyl 3 1/2
 of Goats-head (Barbadae) 3 1/2 the Salts Oyl with
 the juices of the herbs must be boiled together, all humidity
 thereof must be boiled away, then put in the Rosin,
 when that is melted then put the May Butter to it, then
 presse

The Authors wound
 Ointment.

preſſe it through a cloth, ſtirre it ſo long till it be cold, and keep it for uſe. True, this is a plain Wound Ointment, but it is very good, healeth wounds in a ſhort time.

Another Wound Ointment.

3. Take Pyrola, Biſtorta, Sanicula, Veronica, *ana* $\frac{3}{4}$ l. Flores hypericonis, Flores Centaurij *ana* $\frac{3}{4}$ l.; cut theſe ſmall, put them into a Bolthead, pour to it of Sellar oyle $\frac{3}{4}$ l. Beef marrow $\frac{3}{4}$ l. Hoggs greaſe $\frac{3}{4}$ l. ſweat Buter $\frac{3}{4}$ l. lute the glaſs, ſet it in hot Sand, or hot Water, let it digeſt eight daies, ſo that the oyle and greaſe be in a continual melting: then take it out into a Copper diſh, boile it therein to the conſumption of all the moiſture, then preſſe it through a pure cloth, ſling away the ſeces: to that which is preſſed through the cloth, muſt be put of Turpentine $\frac{3}{4}$ l. which being cold, then put to it ſubtilly pulveriſed Maſtick, Frankincenſe, Myrrh, *ana* $\frac{3}{4}$ l. of purely pulveriſed Aloes hepatick $\frac{3}{4}$ l. let it cool; thus you have an excellent Wound Unguent.

Verdigriſſe If you pleaſe, you may mingle with it one dram of Verdigrice, to the end, that your medicine may cleaſe alſo; prepared Verdigrice is good for to give it a good colour. If you have a difficult Joint wound in hand; then it is neceſſary you put to it prepared Verdigrice, or Flus aris; and if that Ointment be too thin, then melt among it of Wax $\frac{3}{4}$ l.

Another Wound Unguent.

3. Take of good Honey lb 2. offreſh Well water lb 1. l. let it have ſome walms over the fire, and ſcum it well, of Pulmonaria $\frac{3}{4}$ l. of Virga aurea, Serpentaria, Stellaria, Sanicula, *ana* $\frac{3}{4}$ l. Plantain $\frac{3}{4}$ l.; cut theſe and beat them, and put them into the ſcummed Honey, digeſt it in a warm place for eight daies; then boile it to a ſpithude; preſſe it out from the Herbs, put to that of well pulveriſed Maſtick, Frankincenſe, Myrrh, *ana* $\frac{3}{4}$ l. keep it for uſe.

This Unguent hath greater vertues than it is believed: it ranneth

runneth better into all the corners of wounds, than any other Oyle can do, it joineeth with the natural humor in wounds sooner than any Unguent or Oyle, and is exceeding good against the running of the Joint water or radical humor.

Of Wound Oyles.

There is no other difference between Wound Unguents and Wound Oyles, onely their thickness, the one is thinner than the other; and to the one are used as many Ingredients as to the other: if you take to the said Hearbs, or other Ingredients, no Wax or thick stuff, but onely Oyles or thin grease, then it is only a wound Oyl. But I made more use of the Unguents than of the Oyles: the advantage herein is only, that Unguents may more conveniently be carried into other parts of the Land, than the Oyles.

There are several sorts of wound Oyles, and wound Unguents, I intend not to speak of them all, onely of some rare wound Oyles I will speak, to make use of them if you please.

Take pure Turpentine, and no running Rasom $\frac{3}{4}$ lb, put and heat it in a pan, then take pulverised Amber, put it in by degrees and let it melt, then put to it of Mastick $\frac{3}{4}$ lb, of Frankincense $\frac{3}{4}$ lb; all these being melted and stirred, then take off the pan from the fire, and drop into gently of Linseed Oyl $\frac{3}{4}$ lb, stir it till it be cold, try on a stone with a drop whether it be done well; if it be of the thickness of Vernice then is it right, if it be too thin, then let it boil longer, if too thick, then put more of the Oyl to it.

A good
wound Oil.

Courteous Reader, here you have a wound Oyl of great vertue for deep wounds and stabs, if put thinly into. But if you will have these Oyles more pleasant and affected to the wound, then take of that Oyl $\frac{3}{4}$ lb, of Oyl of Roses $\frac{3}{4}$ lb, Flowers of St. Johns wort, and of the blew Flowers of Knotgrass $\frac{3}{4}$ lb; mingle these all together, beat them, let them stand in the Sun for twenty daies, and keep it for use: you may put to it of such wound Hearbs, which you think fit best, then will it be praise-worthy. Let

Let no man be afraid, as if these wound Oyls were too strong, by reason of the Mastick, Frankincense, Amber, &c. because their burning hot quality goeth away at the melting. Chymists know that it is so. These are the wound Salves, and wound Oyls I thought good to impart. Marvail not that I give so few and so plain Receipts. To make Salves, Ointments, and Oyls for wounds, is no great skill; true, these are of concernment, and so are the application and dressing, and not so much doth lye in their variety.

Sometimes one Simple will heal a wound as well as a great Compound. The judgement in things is of a farre greater concernment, than the variety of medicines. Therefore if you will make a Compound of Ointments, Oyles, Plaisters, of many Ingredients, then you must know first, why you will use this or that, and for what; you must not go on in it like a blind man, to make an *omnium gatherum* without discretion, which many use to do. And it is for certain true, that it is more dangerous sometimes, if but one Simple is used, than when a plain Composition is applied.

I must give one hint more of a thing I have said above, that Galbanum, Opopanax, &c. are not good to be used to Unguents for fresh wounds: I remember that Mastick, Sarcocolla, Frankincense, Myrrh, are frequently used for wound Salves and Unguents: these are good if used moderately; but if exceeded in, then are they hurtful, and are too hot for wounds: and in case any symptom is coming into the wound, then are these also very hurtful; especially in the wound disease, and wound Prunella, and to excoriated wounds they are a meer poison.

And for that reason I use but little of Mastick, Frankincense, to my wound Unguents, and stick Plaisters, and no more than I do know that I must needs take, why should I take more of them than there is need: too much and too little spoils any thing: wound Unguents & wound Plaisters, should alwaies stand in one temperament. I have observed, that if too much of any of the said Ingredients were taken, that it never brought any good; that flesh which

in the healing should come on, they quite burn it away, causing the running of the Joint water. It is better the medicines be rather to weak than too strong, and may easily be observed in wounds that it is so, if notice be taken.

You must observe (let it be a warning) how much the wound doth receive of the medicine in digesting of it, that thereby you may know what distance of time you are to keep for the next dressing: all this you must be sure of, and not to go by guesse, for here it doth not hold, to say my Receipt is good, you must have judgement both of wounds and of Receipts, whether they affect each other.

Of Unguentum Anodynum.

This Unguent is made several waies of which I do not intend to speak, because I know no reason why I should make use of in fresh wounds and what good it should be for: neither have I made use of Unguentum Populeon, for the same reason, finding no good it doth to wounds. I will onely speak here of Anodynum, the which I advised you above you should make use of, to be applyed to the Wound-gall, to allay the extream heat in the wound by force, and without further means to kill the Wound-gall.

Anodynum

Unguentum Populeon.

To kill the wound-gal.

Take the juice of Nightshade, and of Hisciamus ana $\mathfrak{z} 2$, of the water of Frogs spawn $\mathfrak{z} 6$, the juice of Cicuta $\mathfrak{z} 1$, of good Vinegar $\mathfrak{z} 3$, of Honey $\mathfrak{z} 8$; mingle these, heat it in a pan over a coal fire, stir it well for two or three hours long, then set it over the fire, boil it and scum it well, press it through a cloth, cast away the dreggs, keep the rest: instead of Honey you may take Butter or Oyl, as you please.

Of the Cramp Unguent.

The description of this Unguent, you had above in the Chapter of pains in wounds, where I let it rest not speaking of it here. But how those Oyls ought to be prepared,

R r

which

which are used unto it. I count it needless to tell of it, because the preparation of such are commonly known.

Though I know a readier way for their preparation, yet I hold it unseasonable now to speak of it: when I publish any more of my writings, then will I be mindful of it, and impart also many other metalline medicines, which I make use of for wounds; which are the sovereignest medicines against spoiled wounds, and are a great many of such I never spoke of yet, whereby the Reader may understand, that it is a thing of high concernment, to have medicaments and medicines well prepared, a thing most necessary for Surgeons to know; because their medicines must bring to right again, such wounds, which have been spoiled through salving, anointing, and the like dawblings.

Of the brown Unguent for wounds, which I have made mention of so often.

Brown Unguent.

For what use?

Courteous Reader, I have made several mentions of this brown Unguent; and advised you to use it to wounds, especially to joint wounds, as soon as you fear in the least manner the coming of any symptom into it: I laid the cure of joint wounds on this Unguent, held it good for all wounds, and counselled Surgeons to make use of it.

Therefore I held it necessary to describe it orderly, by reason of its great vertue. It preventeth and driveth away all symptoms, cleanseth wounds, and furthereth their healing mightily, it keeps off inflammation, opposeth forcibly all malignant corroding humors. This Unguent may be boiled to a hardness, to make wicks or tents of it, to convey them to the bottom of deep wounds or stabs, where it melteth by degrees, laying a clean foundation for healing, opposing all contrary things.

How and when it is used.

All these you will find in the practice better, than I am able to express here: But as in all other things, so in this also a moderate use is to be observed. Use it not every day, especially when the wound is in a good state; and not use it unless there be occasion for it, or necessity require it, of the which I gave you notice above. Make

Make it thus: Take Scrophularia, Hederæ terrestris, Celandine, Speedwell, ~~and~~ one handful, cut these small, put it in a glass, pour on it good Wine Vinegar to cover the Hearbs, set it in a warm place, let it stand in digestion a week, strain the Vinegar, and put the Hearbs in a bag, to press them out so that the Hearbs be dry, sling them away and keep the Vinegar.

Then take of Vitriol lb 2, calcine it in the following manner: put it in an earthen pot, let it dissolve, then dry it, increase the fire, let it be red hot for an hour together, it will be red: break this pot, take out the Vitriol, and put it into another pot, pour more Vinegar upon, and let it boil a little; after that put a quart of water to it, boile one moyty of it away: this being done, let it stand a while, then cant off this red water into another pot, and the remaining feces on the bottom pour another quart of water, boile the moyty of it away, and the water being ting'd red, cant it off, iterate it so long till the Vitriol tingeth the water no more. These oft-canted waters must be put into a glass body, and evaporated to a dryness, then the Vitriol on the bottom appeareth red; make this red Vitriol in a new pot red hot, and being thus red hot, you cast it in a pot full of rain water, there let it dissolve: vapour away this water also, and the tinged water you put into another glasse, on the feces pour fresh water, and this tinged water you put to the other tinged water, iterate it a third time, or as long as the Vitriol tingeth any water; these feces sling away, the tinged water must be evaporated, that the Vitriol lye dry on the bottom, as formerly it did: make it red hot in a Crucible, and proceed also as you did with the former; that Vitriol being dried, then is it prepared, and is sweet on the tongue; pulverise this Vitriol: take of it 3 2, and put of the out-press'd Vinegar from the Hearbs 3 3 to it, adde to it of phlegme of Vitriol 3 2, of scummed Honey 3 6, of Flores zris 3 1, and a 1 of an ounce; boile these to a spissitude of an Electuary, then is it ready prepared.

To prepare
thered Vi-
triol.

Flowers of
ars.

Flores aris are prepared thus: R. Verdigrisee 3 i B. pul-
verise it, pour on it of distilled Vinegar 3 7 B. let it stand,
the Vinegar will be tinged green; cast off the Vinegar,
the feces being done away, abstract that Vinegar in a
glass body, then the Verdigrisee lyeth green on the bot-
tom, fairer than it was at first.

This is that *as Viride*, half an ounce of it doth more
with less pains than five ounces of others.

CHAP. II.

*Of Plaisters in generall, and in particular of Opodeldoch,
stiptick and defensive Plaisters.*

AS there is a variety of wound Unguents, so there is a
variety also of wound Plaisters, according to the ex-
perience in Surgery: I cannot dislike that every one stick-
eth unto that, what he hath learned, and I know that some
Surgeons use things, which they do not understand, and
care not for better experimental knowledge.

To speak my opinion about wound Plaisters, it is meerly
a cover over for a wound, as many do count it no other;
but they are of as great concernment as wound Unguents,
which run into the wound: for if these Plaisters be well
prepared, then they preserve wounds from many symptoms,
and are to be highly esteemed.

And do not approve at all of that, when Surgeons ap-
ply Plaisters to woundson dangerous places, made of Wax,
Suet, Turpentine, Oyl, &c. In some place they hold it
a great skill in Surgery, if they can prepare *Emplastrum
Diachylon*, and apply it to the wound: it helpeth such
wounds which hardly deserve the name of a wound: but
in dangerous wounds, where more care and vigilancie is
required, it doth no good, to say nothing of a worse mat-
ter.

But as I said afore, it is a great matter to have good Com-
positions in Plaisters: for an unclean wound is affected
with

with Gum Amoniack, and such like, but to running wounds such Gums are clean contrary: for that reason is it requisite, that Surgeons ought to know the nature and condition of wounds, and to be sure with what each wound doth agree: therefore as in former Chapters I have imparted unto you faithfully the Compositions of wound Unguents and of wound Oyls, so will I do now also, and teach you the composing, preparing, and using of wound Plaisters, and will begin with the Plaister Opodeldoch.

Description of the Plaister called Opodeldoch.

This Plaister deserveth the prerogative among the rest, being a Catholick Plaister, used for all wounds and stabs, and preventeth many symptoms by reason of its quick healing, though it asketh no great toyle in the preparation of it, yet this ought to be considered in it, that half an ounce of it effecteth more than five ounces of stiptick Plaisters, and these also according to my receipt are good, however they cannot be compared with the other.

He that will have or make it, must be informed and expert in many things; and he that cannot make it, let him keep to his stiptick Plaisters, and be more vigilant and careful, then he will have good success in his cures.

Take of Virgins Wax lb 2, of the darkish Turpentine lb 1, of Sallade Oyl ℥ 3, note, I speak of the darkish Turpentine, because some base shop-keepers sell Kintrigt Rasom, which is soft and running, for Turpentine, whose vertue is not comparable unto that of Turpentine.

Melt these together, and put to it the juice of Celondine, the juice of Oak leaves, the juice of Starwort, and Speedwell, ana ℥ 1 ℔, boil these and let all the moisture thereof be consumed; then put these Gumsto it, Ammoniack, Galbanum, Opopanax, clarified with Vinegar, ana ℥ 1, of Colophone ℥ 1 ℔, of Amber ℥ ℔, of Mastick, Myrrh, Frankincense, Sarcocolla, ana ℥ 3; when these are a little cool, then stir among it of pulverised and prepared Magnet ℥ 1 ℔, of Crocus Martis ℥ 2, of Crocus Veneris

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Veneris $\frac{3}{4}$ 1; all this must be stirred into the Plaister, and when it is almost cold, then stir amongst it the red sweet earth of Vitriol, (as before you put in also, of prepared Tartar $\frac{3}{4}$ 3, and of prepared Calmy $\frac{3}{4}$ 10.) as much as will make the Emplastrum brown red: then take it out, work it with your hands into rouls, roul them on a board greased with Rose oyl, make the rouls of the bigness of a knives back, and keep them for use: you must cook it so, that at the use of it being warmed a little, it grow soft; and not so, that when it is cold, it is not flexible, breaks at the bowing like glasse: in this manner keep it for your use.

This Plaister separateth all impurities from wounds, taketh away the proud and superfluous flesh, causeth the growth of good flesh; preserveth from bad symptoms, and bringeth on healing in a short time: this is the operation of it.

Preparations of some of the Ingredients which come to the said Plaister, and first of the Magnet.

Preparation
of the
Magnet.

Magnet is prepared thus: Take and pulverise the Magnet, make it red hot in a melting pot, put into this red hot Magnet of well dulcified oyl of Mars a like quantity, set it on a gentle heat, let it be dry, then is it prepared; half an ounce of it effecteth more, than one pound of other stuff.

That Oyl of Mars which is used to it, is made thus: Take of Allomth 1, of common Salt $\frac{3}{4}$ 4; distill a water from it, and with that water imbibe iron filings several times a day, a rust will stick to it, which must be washed off cleanly, let the water evaporate from it to an oylinefs, which must be dulcified with another distilling, and it is thus: put fresh water to it, let it evaporate, then is this Oyl of Mars; which is fit for that purpose prepared.

The Calmy is thus prepared.

Pulverise Calmy very subtilly, put it in a pot, and make it

is red hot, pour it thus hot into good Vinegar, cover that Calmyes pot quickly, after that Calmy is quenched, then cant off preparation that Vinegar, and put the Calmy into a Crucible, make it red hot again, put it into the same Vinegar, iterate it a third time.

Preparation of Tutia.

The preparation of Tutia is the same with the Calmy, on Tutia prepared. ly at the quenching of it, you take water of Fennel, or the water of Celondine, instead of Vinegar. Tutia is nothing else but the fume of Copper, which sticketh to the iron barrs of the furnace.

Preparation of Crocus Veneris.

Take thin Copper lamins, lay them in a melting pot, make *Stratum super stratum* with Kitchen Salt, let these together be nealed; then cast the lamins with the salt into cold water, wash the lamins clean from their blackness, then make again with Salt *stratum super stratum*, neale it again, cast it after into cold water as formerly, and wash the lamins clean, iterate it as often as you please: to that water you wash the lamins in, pour a good deal of warm water, then cant it off; that Crocus Veneris you will find red as blood on the bottom, which you must wash well, to take off all the sharpness of the Salt, dry it carefully with a linnen cloth, and keep it for use.

Crocus Martis is prepared thus.

Some make Crocus Martis with Salt, others make it with Urine, others with Vinegar, &c. to consume the Iron to rust, out of which rust they make Crocus Martis thus: the Iron being consumed unto rust, that rust they put into a melting pot, make it red hot, and bring it to another colour. But it should not be so, because the Salt of it is not taken off, for whose sake it ought not to be used to any medicine. For it should be made without bringing the Iron unto rust, not adding any Salt thereunto; and it is done

done thus : Take pure Iron filings which are not rusty, put them into a long Reverberatory ; give a strong fire at last, give the strongest degree of fire for a day and a night, that the Iron be brought unto a brown-red ; being cold take it out, and cast it into a tub full of water, stir it lustily about, and suddenly put it into another tub, in the first tubbs bottom all that Iron will be which is not sufficiently Reverberated, you may sling that away ; but that which is run over with the first water, that you must keep, set it on a fire, let it evaporate to a dryness ; I say, let it evaporate, and not cant it off, else its obstructive vertue goeth away also.

This is the best way to prepare Crocus Martis, thus may it safely be used in medicines, of which I made mention often in the description of the Opodeldoch, and Blood-strengthenings.

How the Erath of Vitriol is made.

Terra Vi-
trioli,

Take of Vitriol as much as you will, put it in an earthen pot, make a circular fire about it. and calcine it to a red colour : being thus rubified, then pulverise it and pour water upon, let it stand a day and a night, then pour off the water, and pour other water on it, let it stand to clear up, cant it off, iterate it as often that all sharpness be taken off, and brought to a sweetness, make it dry, then you have a kettle brown earth, which hath greater vertues and operations than Bole or Terra Sigillata.

Of Stiptick Plaisters.

There are several sorts of Stiptick Plaisters, having often made mention of them above, here and there, only giving a hint of their names, not shewing what sort of them I meant, therefore as occasion serveth, I will speak of their preparation and use.

Take of Wax one ounce, of Turpentine four ounces, of Colophone two ounces, of Gum Galbanum, Opopanax, Armoniacum of each three quarters of an ounce, of Magnet

net two ounces, of Amber one ounce, of Mastick, Myrrh, ~~and~~ one quarter of an ounce, of Verdigrise one quarter of an ounce, make an Emplastrum out of these according to use. This Plaister draweth forth from the deep bottom all impure corruptions, which did settle in wounds and stabs.

Another Stiprick Plaister.

Take of Wax half a pound, of Turpentine (not of the running Rasom) four ounces, of prepared Calmy five ounces, of Silver lethargy one ounce, of *as asfum* half an ounce, of Vitriol earth three quarters of an ounce, of Crocus Martis one quarter of an ounce, of Amber, Frankincense, Myrrh, each one dram; mingle all these according to the manner of a Plaister, and work it with your hands into rous. This Stiptick Plister is good for running wounds, making fresh flesh to grow, and oppose the running of the radical humor.

Another Stiptic kPlaister.

Take of Wax one pound, of fair white Rasom four ounces, of Turpentine one ounce, of juice of Celondine four ounces, of *Solanum majus* half an ounce, oyl of Toads two ounces, of *Stirax liquida* one ounce, of Gum Ammoniacum one quarter of an ounce, of Myrrh, Sarcocolla, ~~and~~ one dram, of oyl of Scorpionium two ounces; out of these make a Plaister according to Art.

Oyl of Toads is made thus: Take of Sallade oyl half a pound, put into it eight, nine, or ten Toads, according to the bigness more or lesse, bake them in it, and let them be cold; thus you have your Toads Oyl, which is endued with several good qualities: the Toads must be spitted with a stick, and on that spit to let them dye, that earth they have in their bowels must be taken out, and must be well cleansed with Vinegar.

Oyl of
Toads.

This Stiptick Plaister is very good for such wounds in which there is any venom: it draweth out all impure things,

brings the wound to a separation : when these signs are at hand, then that plaister must be put away, and others must be used.

It is requisite that when these Plaisters are used, the patients be put to sweat either with Treacle or Mithridate, then the vertues of this Plaister will the more be seen in these venomous wounds, in their inflammation or wound galls.

Reader to describe this plaister I could not chuse, though it was not mine intent to write of any poisoned wounds.

And thus I close to speak of Wound Plaisters, hoping that the Reader will conceive of my instruction, how in such cases Surgeons ought to deal.

There are good Plaisters made also of other things, which I do not reject, onely let Surgeons observe and know, whether their Plaisters agree with the Wounds.

Of Defensive Plaisters.

*Defensive
plaisters.*

There are as many sorts of Defensive plaisters, as there are of Wound Unguents, Wound Oyls, and Wound Plaisters. The Ancients have prepared these of Bole, sealed Barth, Ceruss, and such like : and called them Defensives, because they used them to that end, that the Corrosives which they used should eat no further, these Defensives keeping them within their bounds.

But I using no Corrosives neither to Wounds nor Ulcers, but hold them for a horrible thing, therefore I have not need of any such Defensive Plaisters ; but I call these Plaisters Defensives for another reason, because they assuage the smarting pains, defend and preserve wounds from many dangerous symptoms ; and for that reason I advise Surgeons to make use of them for dangerous wounds, for I found it so in my practick, that great good is done thereby.

And these plaisters I used to all wounds, where there was a necessity for it, instead of Poultices ; in whose stead I keep unto Defensives by reason of their utility ; and reject Cataplasmas as dangerous things : yea, I can say truly, if only a single Wax plaister great and broad be applyed
about

about the wound, it is better than Cataplasms made of Milk, Meal, Rose cakes, Oyl, Butter, Melilot, &c.

To speak of these, note first, that some Unguents are had for that purpose, which deserve the name of Defensives: these are made several waies, amongst the rest, they are made of yolks of Eggs, and of oyl of Roses; *item* of Honey, of oyl of Roses, and of yolks of Eggs: *item* of Honey, of yolks of Eggs, Saffron, and Saint-Johns oyl, &c. Of this Unguent put once into wounds, and annointed with, defends them from dangerous inflammations, which Surgeons ought to take notice of. Though they be plainly prepared and composed, and are not fetcht from the Indians, yet in such cases they are used safely doing much good. Now will I shew you my Defensives.

Defensive
unguents.

A Defensive Plaister.

1. Take Wax, and soft tuff white Rosin, of each lb 1, Dears suet, Turpentine, of each 36, of dry pulverised Starwort 34; melt the things meltable, mingle that Powder among it, work it with Cammornail oyl, and make rouls of it.

The Au-
thor Defen-
sive plaister

This Defensive Plaister, used for the outer joints or members, is composed not of many forraigne Druggs, and for that it is slightly esteemed; but as slight as it is, so much the better is it; it strengthneth joints and sinews, keeps the wound in a due warmth, cooleth incident inflammations, and throughout furthereth the healing of wounds.

Another.

2. Take of Wax lb 1 6, of Turpentine lb 6, oyl of Cammomil, and *Lumbrici Terrestris* of each 32; melt these together, mingle with it of red Sanders 34, of Cariophyllata 32, purely beaten, let it stand on a gentle fire for an hour, at last put among it of Gum Ammoniack 31, stir it till it be cold, work it with Cammomil Oyl, make rouls of it, and keep them for use.

This Plaister is a strong Defensive, fitter for Wounds about the body, than for the outer parts thereof; and is specially good for such wounds, which turn where impurities and slime do settle into; and serveth for such wounds also, which are of an eating quality.

Another.

3. Take of Wax, of white Rasom, of Turpentine, of each lb β , of Cammomil Oyl, Oyl of *Lumbrici Terrestes*, of Linseed Oyl, of each lb β , of Harts suet \mathfrak{z} 2; melt all these together, then put these following pulverised things into, *viz.* of Orras \mathfrak{z} 3, of Annis seed, Fennel seed, of each \mathfrak{z} $\frac{1}{4}$, of pulverised Alkekengi \mathfrak{z} β ; of these make a Defensive Plaister, and use it to such wounds, where there appeareth an up-puffed swelling.

Another.

4. Take Emplastrum Diaguilon, made of the Mucilage of Linseed, and Fenugreek, one pound, of Orras \mathfrak{z} 4, of Oyl of Lillies \mathfrak{z} 2; make a Plaister of it, and use it where the following Plaisters are fitting, especially where arteries are out of tune.

Another.

5. Take the Mucilage of Marsh Mallow root, of Fenugreek, and of Linseed, of each lb β , of Oyl of Cammomil lb β , of good Orras \mathfrak{z} 3, of Bean meal \mathfrak{z} 4, of Annis seed Oyl undistilled \mathfrak{z} 1: boil these to a body, put among it of *Syrax-liquida* \mathfrak{z} 1 β , of Gum Opopanax \mathfrak{z} β , beat it with Turpentine and Wax to a plaister, neither too thick nor too thin, according to Art. This Plaister is of a great vertue to assuage pains and swellings, and is an extraordinary Defensive for such wounds, where many sinews are wounded, as about the neck and privy parts.

Another.

6. Take Wax, Rasom, Turpentine; of each six ounces; melt and pour it into Vinegar, take it out and melt it again that all the Vinegar come out of it: then put into Refine of Cherry trees or Gum of Apple trees three ounces, of

of Juniper Gum one ounce, of Saffron one quarter of an ounce: all these being well mingled, then adde the Oyl of Cammomil three ounces, of grinded Camphire one dram, make roulds of it. This Plaister is to be used to the outer parts, it strengthneth them, allayeth pains, which may cause a symptom: as to a hot, up-puffed swelling, which inclineth to a Collostitie, and is ready to break, which may turn to a Cancer or *Noli me tangere*, that is, to a Cancer in the nostrils.

Another.

7. Take of Wax one pound, of Scorpion Oyl four ounces, of Violet Oyl one ounce, of Turpentine washed in Rose Vinegar five ounces: make a Plaister of it according to Art. This Plaisters quality keepeth of incident humors, asswageth the anger in wounds, taketh away all such cases, whereby a wound may be infected, or else with impurities overburthened.

One thing more I must relate, because I am so much for Defensives. Note, you may use besides of Defensives other things, as the Oyl of Scorpion, the Oyl of these great Gums, of Ammoniacum, Bdellium, Galbanum, Opopanax, &c. These things are extraordinary helps, but must be prepared most sweetly: you may compose also of Oyl of Turpentine, of Oyl of Rasom, grease of Froggs, *Oleum Nenupharinum*, Oyl of Orras, these are of a Defensive quality: *Item*, the Oyl of red Sanders, the sweet Oyl of Vitriol is a rare Secret for joint wounds, which are inclining to shrinking and stiffness.

Thus will I close this Chapter of Wound Plaisters, Stip-tick Plaisters, and Defensive Plaisters, hoping thereby to have wrought in young Surgeons an encouragement to be more careful, and industrious in these cures.

Electuarium
Anody-
num vel
Labdanum.

Its prepa-
ration.

I Have made frequent mention of this *Anodynum Labdanum*, and advised often to be used, but its description I have put off to another place: now is it time to inform you of it: and it is made thus.

Take of *Opium Thebaicum* two ounces, cut it into small pieces, and pour unto it of *Alcool vini* five ounces, put it into a little glass body, let it stand in a warm place, the *Alcool* will be tinged, cant it off cleanly, the best vertue of that *Opium* is in that Wine, the remaining feces on the bottom may be flung away.

This *Alcool* must be abstracted in *Balneo Mariæ*, then that *Opium* appeareth in the bottom of the glass, in thickness of Honey; then take the out-queezed juice of Lemons, as fresh as you can have them, let it run through a woollen bag to clarify it; of this juice half an ounce, and of the said *Opium* half an ounce, mingle it well together, then ad to it of *Oyl of Cinnamon* ʒ 1, *Oyl of Cloves* ʒ ʒ, of the *Magisterie of Pearles*, and of the *Magisterie of Corals*, of each ʒ 2, of *Amber* ʒ 1 ʒ, of *Mosch* ʒ 1, of *oriental Saffron* ʒ ʒ, of the extract of *Castorium*, extracted with *Aquavitæ* one dram; mingle all these well together, lute the glass body, that nothing vapour away, let it be in a warm place in digestion twenty dayes: after that time open the glass, all that is in it is wholly ready and prepared, take it out and keep it for use.

If you will have this *Electuary* yet better, then you may ad unto of *Tinctura Auri* ʒ ʒ; but I was contented alwaies with the above said Receipt.

This *Electuarium* hath extraordinary vertues, for many infirmities, and it may very well be held for a treasure. It allayeth all raging and beating in wounds, asswageth the pains in the head, causeth sweet sleep, expels the pains in the body, warmeth the inward parts, is a strengthner to the skull, refresheth the spirit, and maketh the party merry, it causeth good appetite to eat, refresheth the head, opposeth

opposeth rheums, that they hardly shall come to any increase: all its good qualities cannot be exprest.

The dose of it is from four grains to six, eight, twelve and more, as necessity shall require it, which you ought to take notice of: it may safely be used.

One thing I must give warning of, *viz.* if you have a patient, whose breast is obstructed with slegm and slyme, then this Electuary is not good for him: neither must it be used to such, on whose breast or lungs is fallen a rheum. A warning.

There are more Anodynes, which are made by distilling, and are subtiller, pleasanter, and of more use, than these that are set down above: but because every one doth not understand that excellent Art of Chymistrie, therefore I do not speak of them here, and so let it rest at this time.

CHAP. IV.

Of Blood stenching in Wounds and Nostrils, how the things requisite thereunto must be prepared and used.

Above have I rejected some Blood-stenchings, understand it thus, I do not thereby reject or refuse all Blood-stenchings which ordinarily are used: I rejected only such Blood stenching, performed through Cauteries, otherwise I hold all Blood stenching good (except Cauteries and Corrosives) if used without danger and prejudice to the party, be they made of what they will: *viz.* of Rye meal, of Mill dust, Pulmonaria, &c. in brief, all things imbibed and turned to a pap are good to stench Blood; provided it be not a hot matter.

These following may lawfully be used, *viz.* a Carniol stone, Hematites, Agat stone, Crocus Martis, Bole Armoniack, sealed Earth, Earth of Vitriol, in which there is no Alcool left, the sweet red liquor of Vitriol: in like manner Gum Arabick, Gummi Tragant, the white hair of Hairs, Cotton-wool, Mullipuff, and the like: of Hearbs and Roots tending to that purpose, provided they be not of a biting and corroding quality, whereby inflammations in Wounds

Wounds may be caused. Expect not many Receipts about Blood stenching, I will set down only these which I made use of, and found them to be best: he that understandeth me well, will easily provide for himself the like Blood stenchers, leaving every one to his own discretion.

The Authors
plaster to
stencil
blood.

To Blood-stenching I use first a Plaster, which is made thus: Take of Amber half an ounce, of white soft Rosin one pound, the dark Turpentine four ounces, of Mastick a quarter of an ounce, of Crocus Martis made in a Reverberatorie three ounces. Of these make a Plaster in the following manner.

Take a fourth part of Turpentine, make it very hot, strain the pulverised Mastick and Amber into by degrees, these two being melted therein, then put the rest of the Turpentine to it, and then the Rosin, which in another pot must be melting gently; after all that, you put in the Crocus Martis, and then you let it cool, so is it ready.

This is the first and chiefest Blood stencer, not so much by reason of the Ingredients, but by reason of the singular Manuals which fall out here, as you shall have more of it hereafter.

2. The other piece which is here to be used, is this: Take Mullipuff, cut great and small pieces of it, of a fingers thickness or thicker, some as big as an Egg, and of a fingers length, shorter and longer of all sorts, tye these several pieces in a paper as hard as you can, and tye them close together, then bind them more harder together with tape, so that one piece which was of the bigness of an egg, in the binding be no bigger than the little finger: this being done, presse it together with heavy weights, or screw it into a presse, where you must let it lye for some daies, that they may be yet closer prest together, then take them forth, lye them yet more together, and keep them for use.

Blood stenching powder.

3. Thirdly, you must be provided also with this Powder: Take Sheeps blood, let it stand till the blood separateth from the water, which is done in one day and night, pour off the water, and put the congealed blood into a pot, set

it in a circular fire, like unto a Heale cement fire, let it stand so till it be quite dry, it neither stinketh nor is of any rank sent, and being turned to a powder, then is it ready. Take of this prepared blood four ounces, of purely pulverised Gum Tragacanth half an ounce, of Bloodwort pulverised half an ounce: mingle all these, and keep it for use.

Now if you have any patient whose blood you are to stench, then first note and observe carefully, whether when he is angry, the blood will not be staid, unless his anger be over. The like case is when the party hath a paroxysme on him: otherwise you are to do thus: take a little of that powder and cast it into the wound, and take a piece of the prepared Mullipuff, apply it to the wound; the bigness of the Mullipuff must be answerable to the wideness of the wound, yet so that it easily go into the wound, and not be forced into: therefore ought you be provided with all sorts of such pieces: then another broad and thin piece must be laid on the wound, or else Cotton wool, mingled with a little of stenching powder, and hold it a little with your hand.

Make the place dry with a sponge round about the wound, and apply the afore written plaister to it, spread on a bladder, pritty broad and great, so that the wound every where be well covered: then take a bouldster presse the plaister close to the wound, and with the binding be made cling unto the skin, then it will receive no more moisture, and closeth the blood in the wound, and can presse forth no where, neither at the sides, nor below nor above, so that the blood is as it were forced to stay, and run together and congeal within.

Hereby the Reader may easily understand, that it is a matter of consequence when you are about the applying of a plaister, that you must be careful to put away the blood about the wound, and that the skin be well dried: for the dryer the place is, the sooner the plaister clingeth, and the plaister sticking to it, then is the thing for the most part help. Have a care that the plaister do not get loose again; and in case the wound bleedeth too vehemently, then is it re-

quisite, that you apply a greater plaister upon the first, that it may stick on a dry place.

This Blood stenching is very natural, as judicious men may easily understand, and it is very convenient for a wound; for whither can the blood run, being kept in by that on-sticking Plaister, neither can it press above through the bladder, and so it is forced to stay and be stench'd. Besides the abovesaid powder hath a marvailous quality, because it turneth glutinous, and uniteth with the blood by reason of the Gum Tragacanth, and the prepared blood; for that blood also uniteth with mans blood, the matter swells in the wound, and turns to a slyme, as you heard above: and the blood also groweth thereby glutinous, and so cannot run much.

The same thing is it also with the prepared Mullipuff, when it is laid into the wound, it goeth asunder, swelleth to the bigness it was at first of, stoppeth the wound thereby, and that swelling is gentle not forcible, without any danger and prejudice to the wound: that may be used to all wounds, even to head wounds; so the powder also may be used, provided it do not come too nigh to the naked inflammation.

When Mullipuff is to be used.

It is not alwaies needful, that such great earnest be used in Blood stenchings, neither is it necessary to use such prest Mullipuffs: understand it onely of such wounds which bleed extremly, where no ordinary means will prevail: the Mullipuff may be used *per se* also, but you must use a good deal of it, apply it loose to the wound, and then to keep it on with a plaister: many do use it so, and they do well therein.

There is no man compelled or tyed to the foresaid powder, nor to the Mullipuff, you may make a composition of your own head of the foresaid Ingredients, as you think it best. Mingle that powder among pure Cotton wool, use it duely, but then I counsell you, not to forget the plaister which is the chiefest thing herein.

I made use of this way in Blood stenching hitherto, and was ready to impart faithfully the same unto others, hoping that

that if you understand me aright, and handle these things rightly, you will doubtless have good success: onely let me intreat you, not to use any Corrosives, that are burning and biting, for reasons alleadged above.

Touching spells over wounds, and characters, which are greatly used of some, to stench bleeding thereby: I know nothing to say of them, and I leave it in its worth. They are meet words and signs which are not understood of him neither which maketh use of them: and what they are like to effect thereby, the same I commit to your consideration.

Sometimes things fall out strangely, when the wound is in such a place, where the said plaister cannot be applied conveniently, as a party being wounded in the mouth or throat: as ones nose falleth a bleeding vehemently, then other means must be thought upon, as I shall tell you afterward.

If one be wounded in a place, where a plaister cannot conveniently be applyed, then stench that blood thus: Take of the red liquor of Vitriol, which hath no corrosive quality, one part, and of Gum Arabick a third part to its quantity; mingle these, spread it on Cotton wool, and endeavour to bring it to the wounded place, it will make the wound draw together, the blood veins will shrink, and the blood will be quenched, and all without biting or corroding: but you must have a care to let the Cotton wool with the matter, lay a while on the wounded place, that it may work upon it: and if it doth not work sufficiently at the first time, then iterate it once more, that the blood may be stenchd.

Of the same nature is the vehement bleeding at the nose; here it is not alwaies good to have that bleeding stenchd presently, especially in cephalical diseases, because thereby other diseases are spent and consume away by that bleeding: but if that bleeding be so violent, that it must needs be stenchd, then proceed thus: Take instead of Cotton wool, (of which I made mention above) a little piece of the soft dryed and prest Mullinuff, pull a needle and strong it.

twisted thred through it, with a great knot on the end of it; the Mullipuff must be of that bigness, that it may just go in at the nostrils, cover it with the foresaid liquor of Vitriol, mingle it with Gum Arabick, thrust it up with an instrument into the nostril to the hole which goeth down to the throat; if you do not so, you will do but little good, for fear the blood should take its course into the throat, therefore the Mullipuff must be straight thrust upward, being it is soft and causeth no pain. Have a care that the thred, stuck thorough the Mullipuff, hang a good deal out of the nose, that you may pull it out when you have need.

Thus a bleeding nose may easily be stenchd. For such kind of bleeding other means may also be used, as Saltpeters clothes laid to the neck, inwardly you may help much, as you shall here hereafter.

Phlebotomie.

If you see that the patient hath need to be plebotomized, and hath need of other medicaments, then let him have them: my intent is here onely, how the bleeding of the nose is to be stenchd, though this my process seemeth mean and poor, yet I found it still to be best and most useful: for the Mullipuff swelleth in the nose, and obstructeth the bloods course; and the liquor of Vitriol by its constipating vertue draweth things together without any danger and prejudice.

Mullipuff.

The working of Vitriols liquor.

I am not ignorant of, that many remedies were sought after for to stench the bleeding at the nose, but they never did much good with it; insomuch that many bled to death, without help or before they could be helped: I speak no more of it, than what I have found true by experience.

Use of Saltpeter.

There are many good means which ought not to be rejected, as precious Stones hanged about the neck, or put into the mouth or hand, or they scratch the party with them; or there is a singular experiment made of Saltpeter. In old rotten walls, take this Saltpeter of the wall, put it in a melting pot, make a circular fire about it, make it very hot, then pulverise it in a mortar, put white Wine Vinegar to it to dissolve it, dip clothes in it, apply them cold to the wound.

This

This powder may be used also among other Blood stenters; and used to wounds where great anger is, for it quencheth the heat, & coagulateth the blood in the wound. Another secret piece, which is not common, and is this: if you cannot well stay the blood of a wound, then take one dram or one dram and a half of well prepared Saltpeter, (which we set down in the third Part in the Chapter of Wound diseases,) dissolve it in a convenient water, as Chervil water, &c. if you cannot have such, then take Well water, let the patient drink it, you will soon see the blood stay'd; it is no hurt to the patient but doth him good: Thus I close this Chapter also.

CHAP. V.

Of Vulnerarie Potions in general and particular, how these are to be made, and in what different manner they are to be used.

TO make Vulnerarie Potions, and to use them is a common thing, and every Surgeon hath his own way which he thinks best, which indeed is tollerible: for these drinks cannot be rejected, as if they were good for nothing, but are rather to be praised, as without which Surgeons sometimes cannot be, the which I had experience of.

But I met with indiscreet dealings in such potions, that thereby some did more hurt than good; whereas if well handled and made, more good can be done by them, than otherwise; which moveth me to bring to light, that which I have used successfully.

The Reader may easily gather from hence, that it is a matter of great concernment, to keep Vulnerarie Potions in a true use, and if you stick to my order, you will find the abuses which others commit in the use of such potions, and are commonly practised.

For some there are found, which are of opinion that wound hearbs are healing the wounds, therefore it is all one, what hearbs they take, and so keep none, or very little.

little difference between wound hearbs, whereby many a patient is spoiled, who can nere be brought to right again. And this is the reason why some hold very little or nothing at all with Vulnerarie Potions, by reason of the abuses that are crept into them, and effect very little with them.

And for my part I esteem them little or nothing, if misistred by such, which understand them not: but if they be used by expert Surgeons, according unto Art, then I hold it for a thing very necessary and helpfol, to further the cures of wounds. For I speak it really that through Vulnerarie Potions many malignant simptoms can be either opposed or prevented; as Fistulaes, Cancers, Collostities, &c. But if this businels be not rightly understood, then much mischief can be caused thereby, as you heard enough of it.

Wound
Hearbs the
Author u-
sed to
wound Po-
tions.

These following are the wound Hearbs, which I used and still use to wound Potions: *Viz.* *Barbula hirci*, *May flowers*, *Alkekengi*, *Pyrola*, *Cinckfoyle*, *Virga Aurea*, *Adderwort*, *Sanicle*, *Stellaria*, *Ground Ivi*, *Speedwell*, *Hypericon*, *Nipp*, *Carduus*, *Fennel root*, *Serpentaria*, *Artemisa rubra*, *Cariophyllata*, *Salvia*, *Strawberry leaves*, *Bistorta*, *Ellebore niger*, *Knotgrafs*, *white and red Roses*, *Plantain*, *Savin*, *Rhubarb*, *Tormentilla*, *Matrisylvia*, *Maiden-hair*, *Tamarisk the hearb*, the root of *Polypodie*, *Liquorice*, *Vervain*, the hearb of *Centorie*, &c. And I have further made use of *Oculi Cancrorenum*, *Mumia*, and *Sperma Ceta*. There are other things besides these, which may be used for that purpose, of roots, seeds, gums; but I made use of the things named above; from them I will describe my practick.

The chiefeft thing about Vulnerarie Potions is, to know the vertues and operations of Simples, of which you intend to make your wound Potions; for some of Ingredients pres very forward to the wound, appearing in the shape of a water, so doth *Serpentaria*, *Adderwort*, and the the fat hearbs, where great muscles and other flesh is wounded, they are good also for such wounds, which incline unto exiccation.

But

* But such Hearbs are not good for Joint wounds, for whom are more proper, *Artemisia vulra*, *Virga Aurea*, &c. Where is to be noted, that as soon as Joint wounds are safe enough from symptoms, then no wound potion to be used at all, else too much flesh will be drawn into the wound, Therefore for wound Hearbs, which draw much of superfluous flesh into the wound, do no good at all to Joint wounds: For they are of that condition, that they presently press unto that place, and bring their humidity into the wound. And if these wounds be a little closed, so that the moisture cannot press through, therefore of necessity it must fester in the joint, which appeareth not till after healing of the wound, in a kind of swelling, which though they be not painful, yet cannot be consumed but in a long time.

heaps for
what use.

Note.

Therefore my meaning and counsell is, that Vulnerarie potions should no longer be used, but as long as any defects appear; and when no more faults appear, and no symptoms are feared, then cease with Vulnerarie potions, using them less every day, so long, till you leave them quite. Take heed you use any wound Potion at the closing up of a wound, for then no good, but merely hurt is done, and you may gather so much from the things hitherto spoken of.

The Surgeon must well observe what is proper for a wound, and pleasant to the patient; for some Potions become some patients better than others, one thing is liked better of some than of others, and then some Potions are more proper for wounds than others, and according as wounds are qualified, because the one is more fiery than the other; of the same condition are patients also.

A hot wound in a hot patient, especially if the wound be in the head, those Potions are more pleasing more proper for him, which are made of *Bistorta*, Knotgrass, *Roses*, head *Alkekengi*, and *Oculi Cancrorum*, &c. because they are more convenient, than those which are made of hot Ingredients; the contrary falls out, (yet not much) touching Ground Ivy, *Cariophyllata*, *Hypericon*, *Veronica*, *Savena*, and such like.

Vulnerarie
Potions for
head
wounds.

You

To have a
care of the
symptoms
in patients
and the
wounds.

You must have a care also to symptoms in patients, and in wounds, and look well what they ail, and whether the wound be in a right posture or no; for where ever you find any defect, you must accordingly prepare your Vulnerarie potions. To make it more plain unto you, if there be many sinews and veins wounded, and the wound makes no hast to cleanse it self, then *Cariophyllata* is very good in that Vulnerarie potion, also the *Serpentaria*, *Tormentilla*, *Vervain*, *Centorie*, *Sanicle*, *Fennel root*, *Rhubarb*, &c. as also (which indeed is but an ill sign) when the wound or stab is at a stand, and will not heal any further, and begins to sink, then the *Cardus* is the best hearb for it, as also the *Nip*, *Cariophyllata*, *Adderwort*, *Elleboe niger*, *Sperma Ceta*, *Oculi Cancrerum*, &c. and of other.

Which ought to be well observed, because these hearbs differ in their operation, for the one is much stronger than the other, and so ought the less to be used, as *Elleboe niger* is stronger than *Dracunculus*, or *Serpentaria*, *Adderwort*, or *Veronica*; and some of these hearbs are opilative, as *Knotgrafs*, *Stellaria*, red *Roses*, *Tormentilla*, &c. on the other side others are laxative, as *Rhubarb*, *Helleboe niger*, *Polypodium*, &c. others are diuretical, as *Maiden-hair*, *Fennel root*, winter *Cherries*, *Rhubarb*, *Oculi Cancrerum*, *Sperma Ceta*, *Savin*, and *Nipp*, &c.

And this is also to be noted, that among these Hearbs the one is stronger than the other, the one is more diuretick than the other, and the one purgeth more than the other, which by all means are to be observed.

Therefore let Students here learn their lessons better, and not accustome themselves to deal and to handle Wound potions dreamingly, as many do, which care not what Hearb they use; if it beareth onely the name of a Vulnerarie potion, then all is well with them. Hence arise many abuses about Vulnerarie potions, whereby they do more hurt than good. I heard them many times boast, that they had such wound Hearbs, nothing comparable unto them, but I never regarded them, because they used neither judgment nor discretion therein.

Of the above named Ingredients you may order your Vulnerarie potions; and to join together hot and cold hearbs as you see fitting; but still look to that, what the condition of the patient, and the necessity of the wound requireth.

To speak of their quantity, weight or measure, cannot be well set down; because one patient is of a stronger nature than another, the one a man, the other a woman; these parties ought to be considered, and the Vulnerarie potions regulated answerably. And to come nearer to the description of Vulnerarie Potions, first you must note; and it is known unto others also, that Vulnerarie potions increase the blood more than meats, therefore the better that Potions, the better blood it will make; now every wound receiveth its food from the blood: hence easily it may be gathered, if that Potion be prepared of good wound Hearbs, that the wound also will the better and sooner be healed, preserve and defendeth them from several malignant enemies; if so be that good order and dyet be kept with moderateness: therefore endeavour to use to such potions not the meanest, but the best, however all must be ordered as the occasion of the thing requireth.

Touching the cooking and boiling of Vulnerarie Potions, therein not one alone but several waies are used: the one boileth them in Wine simply, another boils it in Wine in an upshat vessel, which is more fit, but not much better, others use Waters to it, distilled of Hearbs, these are not much to be regarded, because the salts are not therein which operate most; others take these Hearbs green without any other addition, putting them in a closed Pewter vessel, setting it in a kettle full of water, boile the Hearbs so long till the juice be out of the Hearbs, and that drink they use; but such Potions are too strong, and but a little of it must be used at a time. It can be made pleasant with Cinnamon and Sugar, to please the patients pallat; all which is left free to every ones disposing, however discretion ought to be used herein.

Boiling of
Vulnerarie
potions.

There remaineth now that I set down some Receipts for

Vulnerarie Potions. It must not be understood here, that thereby I reject all other Vulnerarie Potions : the Ancients also have left behind them several good Vulnerarie potions, and they set them down so upon sure reasons : I am onely against abuses, as you often heard me speak of ; therefore you have leave not only, to make use of my Vulnerarie Potions, but also of other mens Potions , and all discreetly and considerately.

No red Wine to be used to wound potions,

If you will make a Vulnerarie potion for to use it , then take no red Wine to it, for reasons known : and such potions are to be used mornings fasting , and the party fast two hours upon , or evenings two hours after supper.

A good Wound Drink ordinarily used.

The Authors ordinary wound drink.

1. Take Sanicle, Stellaria, Pyrola, Mugwort, of each $\frac{3}{4}$; of ground Ivy $\frac{3}{8}$; boile these in two quarts of Wine to the boiling away of the one moyty, minister to the patient of it twice a day, mornings and evenings.

Another ordinary Drink, which is good also.

2. Take Adder tongue, Bistorta, Serpentaria, of each $\frac{3}{8}$, of Tormentil $\frac{3}{4}$; boile these in a quart of Wine, and use it as the former.

Another, which is pleasant to be used.

3. Take Adder tongue, and our water Bloodwort, *Barbula hirci*, of each $\frac{3}{4}$, of May flowers $\frac{3}{8}$, of *Stellaria* $\frac{3}{8}$, of *Cariophyllata* $\frac{3}{8}$, of good white Wine $\frac{1}{2}$; put these in a glass body , and set a blind helmer upon , close it well, let it boil in sand for four hours gently according to Art, open it, and ad to it of Cinnamon $\frac{3}{4}$, close it again, and let it cool ; thus you have a very good wound Drink. Let the patient drink of it twice or thrice , about four ounces more or less , considering the parties condition.

Another

Another Wound Drink, for one in which there is a loose bone, fowl corruption, or the like.

4. Take of Sanicle, of red Mugwort, of Speedwell, of *Virga Aurea*, of Pyrola, of each $\frac{3}{4}$ ℥, of Savine $\frac{3}{4}$ ℥, of Nipp $\frac{3}{4}$ ℥, boil these in two quarts of Wine or Beer, and use it as the rest: if you will have this Drink yet stronger, then put to it a little of *Oculi Cancrorum*, or of *Sperma Ceta*, the impuritie will be expelled thereby out of the wound.

A Vulnerarie Potion for Stabs or Wounds.

5. Take of Adder tongue, of our water Bloodwort or Goats beard, of each $\frac{3}{4}$ ℥, (note it is not the Goats beard *Dr. Foxl*, and *Dr. Taberna Montanus* saith that it is, but that noble Wound Hearb, which is used inward and outwardly) of *Stellaria* $\frac{3}{4}$ ℥, of Sage, *Matrisylva*, red Mugwort, of each $\frac{3}{4}$ ℥; mingle these together and pour on it $\frac{3}{4}$ ℔ of Water or Wine, which you please, boile it in a closed glasse body, as you heard above: of this let the patient drink twice a day, $\frac{3}{4}$ ℥, at a time, more or less, according to the parties condition.

But if you will cleanse the wound or stab, then take of *Oculi Cancrorum*, of Mumia, of *Sperma Ceta*, of each $\frac{3}{4}$ ℥; mingle them purely. Of this powder let the party take every morning $\frac{3}{4}$ ℥, mingled with the wound Potion, and let him drink it warm, and fast two hours after.

A rare Master piece for a Wound or Stab, where you suspect there is a bone, proud flesh, broken veins or other impurities,

6. This Composition is not known to many, which moved me to impart it, and it is thus: If you fear that there is in a wound or stab a loose piece of bone, proud flesh, pieces of broken veins, fowl matter or such like, (which usually hapneth to deep wounds or stabs) then take your wound Hearbs, which you intend to use, mingle among them a

sixt part of Savine, to all the other Ingredients, and thus prepare your wound drink.

Expulsive
porion.

And when you minister any of it to the patient; then mingle with it of pulverised *Oculi Cancrorum* $\mathfrak{z}\mathfrak{ss}$; and let them drink it: This Potion will expel at the wound all loose bones, blood, corruption, and the like, and cleanse it; without this cleansing no wound can be perfectly healed. The wound being thus cleansed, then leave off this expelling wound drink, and make use of others as you think fit, and leave no danger behind, and use your Unguents and Plaisters according to Art. Though there are not used any wound potions but they are expulsive, because *Oculi Cancrorum*, Savine, &c. are driving, yea almost all wound Hearbs are of that quality, therefore I would have you to conceive aright of it: though the red Mugwort, Polopodie, Rhubarb, &c. are expulsive; yet they do not expel so well fowl blood, and naughty flesh, together with the loose spinters out of the wound, as the Savine, Azarum, and *Oculi Cancrorum* doth. Besides there is not any of the forenamed Hearbs, which so effectually expels the onset, hard clinging slymie matter, as the *Helieborus niger* doth; but must alwaies be used with *Carduus Benedictus*: Neither is there any of the foresaid Simples which sooner taketh away the sharp humors from the gall, and dulcifies more their corroding condition, than polypodie doth, used with Liquorice, and Mallowes; so it may be said of the rest, of which a hint hath been given above.

Difference
in driving
wound
Hearbs.

A Vulnerarie Potion for spoiled Wounds, which yeildeth a tuff and slymie matter, environed with a swelling, and are deep and hollow underneath, are like to turn to a Cancer.

7. Take of *Virga Aurea*, Sanicle, Speedwell, of each $\mathfrak{z}\mathfrak{i}$, of Vervain $\mathfrak{z}\mathfrak{i}$, of *Cariophyllata* $\mathfrak{z}\mathfrak{i}$, of *Carduus Benedictus* $\mathfrak{z}\mathfrak{i}$, of *Elleboe niger* \mathfrak{z} ; boil these in four quarts of Wine to the consumption of its moyty, the rest you strain through a clean cloth: let the patient drink mornings of it $\mathfrak{z}\mathfrak{z}$, use it so long till you see the wound yeilds

yeilds lo external medicines applied ; if it doth, then leave off your Vulnerarie potion, and use convenient means.

But if any pains are incident, then stay, for it is turned already to a Cancer ; outward medicines must be applied answerably, that its eating may be killed, which is done Sweet with the sweet Cauteries ; which are mighty helpful in Cauteries, such Vulnerarie Potions.

A Vulnerarie Potion for the Joint Water.

8. True, there is no such great necessity to use Vulnerarie Potions against the Joint Water ; for if a Surgeon understandeth himself, and is diligent in his dealing, he may stay it without such Potions ; as you heard of it above sufficiently. But in case a Surgeon doubts that he will not be able to stay it with external medicines, and is defective in his waies, then let him make use of the following Potion.

Take Strawberry leaves, Knotgras, red Rose leaves, of Vulnerarie each $\frac{3}{4}$ l, of Consolida $\frac{3}{4}$ l, of Speedwell $\frac{3}{4}$ l, of Caripotion to ophillata $\frac{3}{4}$ l, of Wine lb 3, of Water lb 2 ; boil away the stay the moiety of it, let the patient drink of it ; consider the parties joint water. condition : it were good if Centorie were added to the rest by reason of its bitterness, but maketh the Potion unpleasant ; I leave it to your discretion whether you will use it or no.

A Vulnerarie Potion against Gun-shots.

9. Take of Speedwell, and the hearb of Alkekengi, or red Mugwort, of each one handful, of the root of Tormentil $\frac{3}{4}$ l, of Adderwort $\frac{3}{4}$ l ; boil these in Water or Wine (as the patients condition may brook withall) to the moiety of it, let the patient drink of it twice or thrice a day.

And in case there be much corruption in the wound, then let the patient have of the following Powder among his Expulsive powder for drink, dayly one dram, and that for three times ; then wounds made by all blood, matter, buile if it be in it, will be expelled at Gun-shot, the wound. Make it thus : of Mumia $\frac{3}{4}$ l, of Sperma Ceta $\frac{1}{4}$, Oculi Cancrorum 33, Liquorice $\frac{3}{4}$ 2 ; pulverise these

these very purely; if you will have it yet better, then ad of Rhubarb $\frac{1}{4}$, of Cinnamon $\frac{3}{8}$: it driveth strongly so, and is more pleasant, is safely used, causeth no pain.

To prepare *Sperma Ceta* Note one thing more: when *Sperma Ceta* is stale, it stinks, then it ought not to be used, making the medicine very unpleasant: however if you must needs use it, make a separation with Vinegar distilled, and sing away that which is stinking, and that which is clean keep for use. Of this you must not take so much, as usually is taken, because its vertue now is made better and stronger: which is to be understood of other things also, where *Sperma Ceta* is used.

And this is all what I intended to write of Vulnerarie Potions, hoping that the Reader hath sufficiencie of instructions from thence, according to which he may order all other sorts of Vulnerarie Potions. And thus I let it rest, and having made one relation more, then have I done with it.

Many may think, when they have perused the things I have written concerning Vulnerarie Potions, and say; this man useth in his Surgerie none but plain Plaisters and Unguents: if any one should perswade himself so, he may be deceived. For besides these Vulnerarie Potions, I use alwaies Wound Unguents, Stiptick Plaisters, Opodeldoch, &c. as good as they may be, and occasion requireth. However it is true, that if Vulnerarie Potions are used, then the wound needs not so much of Unguents, as when none were used. Neither do I advise, that such Vulnerarie Potions are to be used to all wounds, for where I have no need of them, there I omit them; and where they are needful, there I make use of them. And I used them discreetly, not because I was accustomed to it: if I should have done onely according to my custome, I should never have been without sorrowes.

CHAP. VI.

Of Spouting and sprinkling into Wounds, of Tents, and of Corrosives.

I Cannot chose but to speak something about syringing; and that briefly without any Receipt: spouting is much ^{Spouting} used with Lavaments, I describe none of them, because I ^{or Sprink-} see there is more hurt than good done with them, and so I hold their use to be unadvisable, and this must be understood about fresh wounds. And if any wound precisely be for the use of them, he ought not to syringe strongly into any wound or stab, be it as deep as it will, else the wound within will be driven asunder, or enlarged and made wider: spout so gently, that the medicine may only drop-
ingly fall out of the Syringe into the wound.

But in spoiled wounds, which are fistulated, to these syringing may very well be used, unto which in some place I gave my advise. These Syringes must be either crooked or straight, as the condition of the wound is, whereby you may come to the bottom of wounds, and to bring the medicines thither also. To sore throats, for pains in the mouth, a strong syringing is necessary, because through that strong spouting, is better washed off the Slyme and filth from teeth; and from the holes of the throat, than when merely gargarismes are used.

Of Wicks or Tents.

When Wicks are to be used, ye heard it above, viz. to wounds where spinters are, to flap wounds, to vehement bleeding wounds; for other places I do not advise them, it being a dangerous abuse: I hold less of swelling Tents, ^{Swelling tents are} unless they be made of Juniper Gum, of the root of Gen-
tiana, dry Sponges &c. ^{naught.}

I do not see what good they can do either in fresh or in dried wounds: true, they keep a wound asunder, but close again.

again quickly, leaving the wound in her old condition: if a swelling Tent be put into a Wound, stops the hole, lets no matter come forth, keeps it in forcibly, till it be pulled out again, and vent be given to the wound.

How to
make tents
to keep
wounds o-
pen there-
by.

If Tents needs must be used to keep open wounds: then make them of linnen cloth, cover them with an Unguent, mingled with burnt Allum, &c. then they will bite round about, and make an open place. My advise is that medicines should be conveyed to the bottom of the wound, and not onely to dawb the Tents therewith: and Tents used to spoiled wounds are such, which of themselves melt within the wound. These are thrust home to the bottom of it, and to the upper place of the wound there is laid another made of linnen, to keep in the first Tent, that it come not forth before it is melted; of such Tents I have made mention afore, hoping to speak more largely of it in another place, when I shall publish my Cures about wound Fistula's, and the like Sores.

Melting
tents.

Of Corrosives.

Cauteries
are not good
to be used.

To use Cauteries to fresh wounds is needless, and hurtful, and spoils a fresh wound wholly, and does no good at all neither in Blood stenching, or other occasions. Corrosives have poisoned many wounds, turning them to a Fistula, Cancer, *Noli me tangere*. Corrosives do wound bones, and are the cause why such a wound cannot be healed, and turns to a Fistula: they inflame sinews and cause many other mischiefs.

Sublimed
Mercury.

Surgeons usually corrode with sublimed mercury, which is a great abuse and misunderstanding: for Mercury doth not bite, the salts do it which he received in the subliming, these corrode the broad way, causing smarting pains: Mercury ought not to be used at all to fresh wounds. Others use crude Arsenick, and some do sublime it; but it is as hurtful to fresh wounds as Mercury is: some use the *caput mortis* of Aquafort: and others use the red calcined Vitriol: all these are naught to wounds. Nature desires quietness, will not be disquieted by such evil medicines: sweet and gentle

gentle things are to be used here , and not to press Nature with sharp Corrosives. I never used any stronger Corrosive to wounds but quenched Allum: true, I hold, that Arsenick is to be used to spoiled wounds, but my way of preparing of it is, that it deserves no more the name of a Corrosive or venome; it separates the ill from good, not causing any pain. The Brown Unguent performs all, what is to be done about wounds; as you heard above: in want of this Unguent, you may use *Unguentum Egyptiacum*; provided there be no Allum in it, or a very little, as some use it: But this Egyptiack Unguent is not to be compared in any degree with the Brown Unguent.

Extinguishes
Allum.

Arsenicks
operation.

Brown Un-
guent.

How to prepare Arsenick that it may safely be used.

Arsenick ought not to be used crude, being a meer venome; its operation is answerable to its preparation; usually it is prepared thus. Take of Christallin Arsenick $\frac{3}{2}$, of Saltpeter $\frac{3}{2}$, grind them well together, put it in a melting pot, make a circular fire about it, let it melt, and let the smoak and fume go away; increase the fire, that it be red hot, let it stand thus two or three hours, then cast into it of yellow Sulphur 3 1: this being done, cast it forth on a marble, set it in the Cellar, it dissolves in few dayes: that liquor keep in a glass for use.

Arsenick
how prepa-
red.

Thus I close this Fourth Part, true, I could have quoted many other things, but I purposely avoided prolixity; being this Book is already grown bigger than I intended it should. Reader I hope these will be an occasion to you, to regulate your self in other things, intreating you, to accept in good part this my labour, which was to be servicable to others. The bad things in it must be ascribed to Man, for the good things in it God is to be thanked and praised.

Conclusion

F I N I S,
Of the Fourth and Last Part of this
Book of Surgerie.

The first thing I should mention is that the
 book is written in a very simple and
 easy to understand style. It is a
 very good book for the beginner.
 The author has written it in a very
 simple and easy to understand style.
 It is a very good book for the
 beginner. The author has written it
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 very good book for the beginner.

Part 1

Of the outward and inward Part of this
Book of Surgery.



The Childrens Book

OF

FELIX WURTZ,

A famous and expert Surgeon.

This Book was never published till now.
Treating of infirmities and defects of new
born Children; and of the faules and abuses,
which wet or dry Nurfes commit among and
against little Children; and of Medicins
and Cures, of such Children which re-
ceived hurt in that way.

Written for young Surgeons, wet and dry Nurfes,
Maid Servants, and other parties, to whose trust and
overlooking little Children are committed.

MY purpose is to communicate an usual little Trea-
tise concerning the infirmities of new born
Babes and sucking Children, which are befall-
len them by the neglect of wet and dry Nurfes,
or else brought them into the world from their mothers
wombe. In the first place I will speak something how Mid-
wives,

X x 2

wives, wet and dry Nurses ought to be conditioned, that they may the better deal with such little Children or Babes, even as it becomes an understanding, sober, godly Woman.

Duties of
such Wo-
men.

Such Women to whose trust little Babes are committed, ought to be pious, honest, modest, and civil in words, works, and manners: she must be one, that hath been a Mother of Children, and is expert in those waies; for experience is the Mistress of things, and there is more credit to be given to experienced Women, than to such which know things by hearsay. Therefore if a Midwife be a Woman of credit and fidelitie, and hath endured in her own body, anguish, miseries, and pains, which others neither can nor will beleeve, because they never endured any torments in their own bodyes; neither may they hear nor have heard of the like: those that had such things befallen them, know what they are; neither is there any need to tell unto such, what miseries pains and torments mean: and those that were never in such perrilous cases, may hold their tongues and not speak of it jeeringly or contemptibly.

It falls out often, that in such dangerous travails, one three, or two loose their lives, besides the loss a good Husband hath in his Wife, and poor Children in their Mother, &c. And in case such parties may escape with their lives in hard travails, yet are they so pulled and torn, that they are made unfit for any work, which otherwise might have better been preserved, if honestly and faithfully they had been dealt withal. This I speak not as an invective against others; let every one look to it, what they are intrusted withal, and make a conscience in their waies, remembering also that they must be accountable unto God for it, then they need not to be put in mind of it by my words.

I beseech every pious Matron, not to take ill the things I speak of; for what I intend here is for the good of little Children, which cannot complain of their griefs but by crying.

For

For it is most certain, that Children will not cry, unless they ail somewhat; because it is more ease for them when quiet: and they are not able to make their complaints any other way but by crying. Hence we are to note, that as soon as man is born into the world, then is he made subject to endure pains. Therefore good notice must be taken what these crying Children aileth, wherein they are grieved or pained, that with one thing or other they may be help. I do not write here of such, that are yet under birth, but of those that are brought already into the world. For I presume not to write of such things, which I never had any experience of; those I leave unto wiser men. Things that are not commonly known, I intend to describe for the good of bearing Women: for I have been much sent for to come to Children, and experimentally, knew this or that defect in them; and parents themselves confessed, that it stood with their Children as I told them: and gave warning afterward to young and old, to look to it if the like cases befall their Children. By some my faithful counsell was slighted, not hearkening after, much less to follow my advice; however some honest Women thankfully accepted of my counsell.

How Babe^s reveal their griefs.

What weaknesses he treateth of.

Having seen several pains and defects in Children, which could not make their griefs known but with crying, therefore I call to God Almighty for his Grace, that he would be pleased to assist me in this my present writing, that it may tend to the praise, Honour, and Glory of his Name; to the welfare of young Children, and to the good of those which love Children: Amen.

He hath seen the defects of many Children, calls to God, to assist him in the writing thereof.

I do not write here for those, which know things as well or better than I; neither do I carp at any: but in case there be any which do not understand these waies, neither had any Children, neither considered what such pains and defects incident to Children, might prove; to such I dedicate this my Treatise, for an instruction unto them.

How a Nurse to a green Woman must be fitted.

To return again to Nurses, they must be of an honest godly life, neither must they drudge in heavy toyling works, neither in the field or garden, neither within doors with washing,

Children
must be
handled
tenderly.

washing, scouring; nor about the fire, or handle any other rough works, whereby their hands are made hard and rough. In case that such Midwives or Nurses are driven to do such rustick works, it behoveth a Magistrate or Congregation, to allow a certain annuity to them, that they be not forced to fall to such rough and hard works. To clear this with a comparison: if hands are kept clean, because their work in hand is about Silk, fine Linnen, Laces of Gold or Silver, is Man not more precious and worthier to be kept clean than all these? especially when that young tender Children are not able to speak or complain against those, which deal roughly with them, more than their nature and body is able to brook withall, by hard pressing, thrusting, pinching, burning, &c. and thus such unhappy girds, Children are put unto.

Soft fingers
commonious-
ness,

I have seen both Mothers and Nurses, to bind and tye their Children so hard, which for pittie sake mademe weep. A Woman that usually handleth neat work, whose hands are pure, what advantage hath she before such a one, which is forced to do all manner of skulion work? to feel with her fingers ends, &c. As a Barber knoweth the commodiousness of soft fingers at the touching of veins, before him, whose fingers ends are rough and hard: and those also know it, which work in Silk.

A tender
Child must
not be hand-
led rudely.

A Vein-broken Child is like to flesh wrapped in a naked skin, as every one may observe also, who had a swelling or wound on his body which is but newly healed, how tender and soft that new skin feeleth: even so is it with a new born Child. If a man doth but scratch his finger, or is pinched, if a heat comes to it, how soon he complaineth of it; or if he be hurt any other way by a fall, thrust, &c. whereby some danger he falls into, and that place is more painfull unto him than others, which are not hurt. These things any one may be sensible of; much more will be new born Babes, if roughly or rudely handled, or are hurt in the least manner either with hard hands, rough woollen clothes: or course unblanched linnen, or hot and hard swaddlings, or when laid upon hard and pricking straw, feathers,

feathers, or dried oak leaves; laying the Child in a Cradle purposely made, whereby the Childs head may be framed round, lying it on the back also, that thus out-stretched it may look upward, which furthereth Childrens fancie unto melancholly, itch, frights, and the like: for Children are sooner full of frights, if placed with their heads upright, than if laid a little side way, and that their pillowes may not yeild so soon or so much to their head, as to fall deep in, neither must the Nurses make it so purposely, as to lay the Child hollow on the pillow, that the Children may the easier turn or slide: this kind of lying hurteth the Childs memory very much, or it causeth other simptoms, which afterward are not reduced so easily, and the Children being laid on their backs, it causeth heavy and melancholly dreames, which old people do find, if they lie on their backs, and the heavy melancholly blood runs about their heart, putting them into anguishes and frights: some do think that then they are awakened, are troubled with strange thoughts, break forth into strange words, from their fancies they had in their sleep; he thinketh he awakneth, & yet cannot awaken, because his talking and out-calling keeps him thus.

Lying on
the back is
hurtfull.

Some use to lie their Children in the Cradles higher at their feet, than at their head or heart, at which I marvelled many times. But if a Child hath scabbed swelled legges or feet, then their feet must be laid somewhat higher, that the blood run not too much into the feet, and the pulling itching pains be not increased thereby: let every one be judge here, that is troubled with naughty legges, if he hath but a little blister about his foot or ancle, what pains he feel-eth then, if his leggs hangeth down: what do you think a Child endureth in this case.

Children
must be hi-
gher at their
feet than
their head
when?

If the Child be sound in body, legges and feet, then it may lie higher at his feet than at his sides, but not higher than it lyeth at his heart and head: this I hold to be very good. Therefore my advice is, to make that part of the bed somewhat higher where the Childs side is to lye, then his head and heart will lye higher than his feet and body, which is the safest and easiest way for his rest.

To lay a
sound child
that it may
sleep well.

Touching

What the
rocking of
the Cradle
is?

Touching the rocking of Children; some Mothers use their Children to it at the first, but others do it when they would have them sleep, and others rock them when they cry; others there are which will not use their Children to it at all, as one a Clergy Mans Wife did, who set her Child every night into a Cellar, because nothing should disquiet him in his sleep, not thinking on any other things the Child might befall, but no honest Woman I hope will imitate that fashion. In my judgement I hold it to be best, that if a Child be laid down in Gods Name, &c. to rock it gently, and not too hard, then let it rest. But if a Child sleepeth unquietly being as it were frighted, as it can be perceived, when it snorteth, snuffeth, or when frightned, or cryeth, then rock it gently again, then the melancholly blood which opprest the Child, and frightned it, is by rocking brought to right again out of its fear and anguish, and are dispersed or expelled.

It falls out sometimes, that a Mother meaneth to quiet her Child with rocking, whereby the Child is the more unquieter, and with crying inflames his head so vehemently, that in many daies he cannot be brought to right again: sometimes such a Child aileth that which a Mother doth not think of, supposing to be the Childs frowardness, which is not so, but it feeleth something to be amiss in the bed, which doth hurt it, or its hand lyeth hard, or a prick, straw, or hard feather doth prick it, or a pin, which careless Nurfes left in the linnen, or a flea or louse tormenteth the Child: therefore my advice is, that if a Child will not be quieted, to take it up and see what doth ail it,

To help
Children of
the Cramp.

Little Children are tormented also sometimes with the Cramp, when they are taken up, then their blood runs up and down, and by that means are they quieted; few people take notice of the cause of it: and is remedied when the blood getteth its course again, and come to that place which was bereaved of it, it warmeth that part again, which warmth driveth the Cramp away, and the pains which are caused thereby. A Cramp will hold a Child strongly if once it takes possession in a Child, causeth

great

great pains below and above ; as these pains are to the Children continue in their crying, and commonly the Gout doth accompany it. Therefore these things must be taken good notice of, when the Child cryeth much either half sleeping or awakened, then take it up, and wrap it in warm clothes. This misery is caused by the following things, *viz.* when Children are kept cold in the Nurses or Mothers lap, or in the bed, bath, or lye in wet clouts, bepossed by Children, or such Children sit naked on the flower, or stone, I have seen that the sitting so naked on cold places hath proved so dangerous unto Children, that in short time they were creeped, with whom I had great toyle, before I could recover them to their former health; for if once they take cold in that way, they are hardly recovered again.

This befalls old people also, some whereof I have seen dye of, in great anguish and misery, and lay long by it before they dyed. Therefore tender Children must by all means be kept warm, not to shake stir and dally them too much. If a new skin in old people be tender, what is it you think in a new born Babe? Doth a small thing pain you so much on a finger, how painfull is it then to a Child, which is tormented all the body over, which hath but a tender new grown flesh? if such a perfect Child is tormented so soon, what shall we think of a Child, which stayed not in the wombe its full time? surely it is twice worse with him.

Touching Baths of Children, it is known that they are Childs bathed sometimes so hot, that the heat thereof is scarcely Bath. sufferable to an old bodies hand, whose skin is strong: we must note here, that if a water bath be made for any one, which seemeth to him to be not very hot, at that time when he was scabby, and went in the first time; so the skin of a Child is so thin and tender, as his, who is full of scabbs. A hand which is usually naked, can endure more cold, heat, air, &c. than that strong sound body, which usually is not naked, &c. This every one doth or may conceive easily if he taketh notice of: some Women are so careless, that

they take no notice, nor observe, what pains they do or may cause unto others, and make Baths for Children so hot, as if Children were able to brook with, not considering, that Children are weak in their little bodies, and not so strong, as aged people are in theirs.

The bodies of such little Children may be compared to a young and tender root or twigg of a Tree, which in the fouch is not so grosse as an old root or branch of a Tree; take heed you cause no paines unto little Children, that they may not be filled with pains in their joints, whereby they are made unfit ever to follow closely or well any mechanick calling. And it is a most certain thing, that those which are bathed too hot, get a more tany skin, than those which are not bathed so hot: neither must they be bathed too cold, else there will be caused to them pains in the belly, and the cramp, and is then most of all caused, when Children are naked in the water, are not covered in their body, or else when the bath is made too thin, or when such a bath is made but once, and no more used a long time after, and no order is observed herein, or when the Child is taken out of the bath, and they care not how long they keep it in the lap. Some use to lye the Children bathed behind the hot oven, whereby the Child may soon be stifled or choaked, not regarding, whether that heat doth not cause a pain in the body or head, supposing onely if the Child be but laid behind the oven, then is it well cared for. Some have that custome, when they have bathed their children, then they rub them with Wine, and the whites of Eggs, saying now I think I washed my Child neatly; and rub it so strongly as if they had an old bodyes skin in hand, which is grown hard, thereby to soften it; they do not consider, that if an old bodyes skin after bath should be so rubbed, and the party were scabbed, how he would be affected with it: or if a sound bodyes skin should be thus stretched or reacht, what pain would it cause to it, little do they consider, what great wrongs are done thereby unto little Children.

Pains in the belly, and the Cramp how caused.

Children are hurt if after bathing are laid behind a hot Oven.

All honest Mothers and Nurſes will be cautious and careful that their Children be not uncovered too long, be it either at their taking up or their carrying about, and ought to be laid dry down again; in like manner when they are taken out of the bath, they muſt be received in a warm cloth, the Dray alſo in which the Child was bathed, muſt be ſo placed, that no ayr may come to the Child in the bath, and that it take no cold by opening of Caſements, Doors, &c.

Children muſt not be kept long naked or wet.

The Child muſt be well guarded above, to be wet the leſs, and its head dreſſings and attires be not made wet, elſe great hurt and wrong is done unto the Child: for a Childs head or body being waſhed, and then to let it ſit thus wet, and let it take cold, it wrongeth the Child ſo much, that it will ſtick unto him even to his old age, rheums will trouble them, about the eyes, their hearing decayeth, their heads break out, eſpecially if you let Children take cold in their wet heads, then ſuch wrongs are done unto them, which hardly can be expreſſed.

In caſe a Childs head muſt be waſhed and cleaſed, then it muſt be dried again ſuddainly, let it not be moiſt too long, for if you do, it will be troubled with running eyes, hard hearing, rheums in the face, noſe, gumms, ſhoulders, arms, and their body will be troubled with cold diſeaſes, which he will not be rid of all his lifetime. Therefore I warn you faithfully, that you keep not long Childrens heads wet, nor let them come into the cold with wet heads, which is more dangerous than if in a warm place.

A wet head taking cold wrongeth young and old people.

Now will I ſpeak of the thruſh in Children, which cauſed many Children ſtarv'd, and I cured of that weakneſs, more than a hundred of them.

Of Childrens thruſh in the mouth.

For a warning, I will give a hint of faults committed by Nurſes, in their rude manner of waſhing Childrens mouthes, whereby they do and have cauſed this great miſchief unto Children.

Some indiſcreet people take wool, or rough lianen, or the bath cloth out of the bath, ſeel with it to the throat, and ſo waſh it, ſaying how furr'd is this Child in the throat,

Cauſe of the thruſh.

I must wash off that white stuff, and rub it so hard that they pull off their subtile skin, even as a soft rind is peeled off the tree, which if once done, then the next day his mouth groweth more white, which if they see it, then they feel further into the mouth, and fall on washing of his mouth, saying, this Childs tongue looks white, I must scrape his tongue, and scrape and wash away the tender skin of his tongue, and make it bleed, which surely causeth the thrush in the mouth, and the more they go on in their washing, the worse they make it. This great fault about the mouth washing, hath moved me to write this Treatise, and I intreat all good people not to make use of such washing, and to warn others from it also: for the tongue doth cleanse itself, being a member which is still in motion, and groweth not weary.

Objection. It may be objected, why should not Children be washed in their mouthes, if filled up with flyme; and to take away that filth?

Answer. I answer, this reason is produced onely by ignorant people, which neither know, nor can distinguish, what this flyme, flabber, or skin is: what wonder? if they cannot discern it in aged people, how should they be able to discern it in Children, in whom it may sooner be discerned than in aged people, and is a great deal more dangerous in aged people, than in little Babes.

The condition of childrens mouth. It is known among judicious people, that every new born Child, if sound, is pale and white in the throat, and if it be red or green in the throat, then is it hurt or wounded, and his cheeks and tongue are yet white, especially on the middlemost streak, what need then to have it scraped, washed or rubbed, to make it red?

Blisters on the tongue cheeks or throat. Sometimes there rise blisters on the tongue, and also on the cheeks within, and at the throat; of these I do not speak now, but if a Mother or a Nurse knoweth whether they are blisters or no, as many of such were brought to me, which were tampered too long withal, insomuch that their mouthes stunk, and could neither eat nor drink: therefore care must be had to be sure whether it be the beginning of

of a thrush, or whether it be a defect the Child brought into the world; for if their mouthes stink strongly, then is it not natural, but comes from putrification and filth: for such I do not say, that no remedies should be used; but I speak of those, which scrape and rub Childrens mouthes so long, till they have pulled off that little skin, whereby is caused the thrush.

It usually comes to pass, when Children are fed with hot paps, which burns their mouth, tongue, &c. which carelessly Nurses, Maids, or rude labouring Mothers do commit, which have hard skins on their fingers, before they can feel how hot the pap is, they burn the Children, whereby small blisters on their tongues & lips are caused like to burnt blisters, which are difficult to be healed, which if not well looked to, will prove the thrush; therefore care must be had, that Childrens food be not given too hot.

In some places Children are fed in this manner: they take a spoonful of pap out of the pan, put it into the mouth, then put it again into the spoon, then they give it to the Child: in this manner Children are not so soon burnt, but they fumble so much with the spoon about the Childs lips, which if no heed taken will cause blisters also, which hinders Children in their feeding, and the thrush is partly caused thereby.

Therefore let Nurses look to it that they wound not the Child with the spoon; for though aged people may feed themselves safely with spoons, as being used to it, yet a Child may be hurt with it, being unused to it: and if aged people may be hurt with a spoon at the eating, much more a tender young Child: and if a spoon doth not scratch or cut on the one side, it may do it on the other, which if not regarded, may soon bring some hurt.

Moreover they use to warm the Childrens pap again in Butter or Oyl, and when that fatness swimmeth above, and they taking off some of it with the spoon, then they blow away the fatness strongly, not having a care, whether any of it leapeth into the Childrens eye or face: I have seen it, that Childrens faces grew full of scurfe, even upon that.

How much children are wronged by hot papps.

Some cut-stomes to feed children.

How children get faces full of blisters. that cause, and looked as if they had been leprous: *Item* Children may be hurt also in that kind with their Drinking bottles, which in the end may prove a putrifaction: therefore Mothers are to oversee their Nurses herein.

If they feel an itch in their hands or feet, what to do? If a child hath an itch in his feet or hands, then it must not be kept too warm, but must sometimes lye uncovered, else it can have no rest or sleep. There grows also little worms in childrens hands or feet, which if killed, give a snap like a nit, these suffer not little children to sleep: many of these worms have I digged out, which if not digged out, no hope for any rest, which being once taken out, then these children are at ease in their hands and feet; and if children are bathed, these worms are drowned: Allum and Salt maketh them ingender, but if Sulphur used it killeth them quickly. Nurses must look to it, whether children be troubled with such worms, or whether onely with a scurfe, if an itching one, then such children must be laid into the Cradle so, that they may turn themselves, they will the sooner settle to rest, for after their own rubbing, the smart being gone, will the sooner bring them to sleep. For this grief in children about these itching worms, no better thing can be used, then a Water Bath in which Sulphur is boiled in; it doth not heal it so soon, as when such children are annointed with, in a dry way. In case the child cannot be put into a wet Bath, then apply the Ointment which is spoken of afterward; in a broad and long way, as far as these running worms have made their tracks, which Ointment must be let alone there for two daies before it be taken off: it taketh away the pains, and the worms are killed under it. I made experiments upon mine own children, and found it very good.

Sharp burning blisters in children and their cure.

Children are troubled sometimes also with burning blisters, which are full of heat & pain, these must not be let alone till they are dried up, by reason of their tormenting pains: the following plaister applied to it is very good. *R* of Wax and Rosin of each a like quantitie, put some Oyl to it, let these melt together, spread some of it on a cloth, apply it and let it stay there for a day, though some matter gets

gets out of it, it is no hurt: or, & a Honey plaister, or Suet, &c. It is better to use any of these, than to let it alone naked.

Children are troubled also with Fellow feeders, ^{Fellow eaters,} which are continually growing at the back betwixt the two shoulders. To cure them of these I took the children into a hot Stove, let them be well heated, afterward I annointed their back with Honey, then these black worms crept forth, which shaved off with a Rasor, having iterated it twice or thrice, then all these itchings ceased.

Children are troubled also with pains betwixt their thighs, under their arms, and near their privities, at the making of water they feel smarting pains. ^{Smarting in children.} Some do help this with ravelings of linnen, which they apply to the affected places, which doth no hurt according as they do it. For some scrape it off with a knife, (lint) which is nought; ravelings of cloth are better, the former stick too close. Others wash their children in these smarting places with Wine. Others take fresh Water, and wash their children therewith in such places, which in my opinion is better, causing less smarts than the Wine doth; being after washing well dried, then annoint the affected places with warmed Suet, and with warm Ointments these places be annointed, where there urine may come unto. Pomatum is good also for the bitings caused by urin.

And to make these outward means to be more effectual, it is necessary, that rules prescribed be observed also, viz. the Mother or Nurse must abstain from salt sharp meats, as red Hearing, pickled Cabbage, *Bartholomies* Beef; no Meats of Spices, as dressed with Pepper, Ginger, and such like hot Spices; for as the Mothers dyet is, so the childrens urin will be, of a sharp biting qualitie more or less. Bayes are the best help for such pains.

Some Childrens eyes are alwaies running, others have fore eyes, and some of them have their eyes clung together, ^{Running eyes in} The which to remedy, Mothers or Nurses usually let their children, Milk run into them, of which I do approve; provided that such Nurses feed not upon any Garlick, Pepper, Mustard, &c. ^{The}

The clear Water which runneth out of childrens eyes, is less curable or stayed, than if their eyes be sore : for a little forenes of eyes is not dangerous , but rather a wholesome cleansing of the whole head and brains : but the clear water often causeth cronical Symptoms. In case the child is not able to brook any light, or to open his eyes , trouble it not with opening of them, unless the water in his eyes cease and dry up ; then let his eyes be opened twice a day, open his eye lids but not against the fire, but onely in a dark place ; although the child lyeth in a dark place , yet his face must at that time, be still more turned to darknes. Let no white clothes hang over or about the child , it would be hurtfull to his eye sight ; especially fire and candle light is hurtful to his eyes , if children be laid to look toward or into it : and all other burning things of a flame , are hurtful to such eyes, and cause smarting pains.

All shining things ought to be removed from bad eyes.

Felix Wurtz testifieth what hurt bright things did to his bad eyes.

Let every one be warned, to keep off every brightness or heat from sharp humors in the eyes, and not to suffer that Sun, Moon, Day, Fire, Light, or any other whiteness of a Wall, Sealings, &c. give any shine to such eyes, especially to keep off the Sun Shine. I found it by experience how hurtful hot glimble of shines are to eyes : for one time being troubled with an head ach, opening my eyes toward the place where the windowes stood open, looking then on a new whitened Wall, thinking the windowes were shut, (but stood open unknown to me) there strook a white glass or shine so strongly into my brains, that I thought I nere felt so great a pain in my life. Let every honest body be perswaded , to beleve that the like will be caused in young children , and not suffer any white or hot shinings fall on their bad eyes. I have been troubled with many infirmities in my body , but never felt greater pain than that head ach, caused by looking on that new white Wall, hath brought upon me : and was enforced by these extraordinary pains to have the pulse or temple vein on the left side to be cut, which all Surgeons, Barbers, and good friends dissuaded me from ; my Wife also by perswasion suffered no knife or other cutting instrument be brought near

near me, and kept all such things from me, and all such that came to see me, were intreated to let me not have any manner of instrument to cut or stab withal. All were affraid I would lay violent hands on my self, by reason of the great pains I was in. Thus making pittiful mourn to Surgeons and all my friends, on whom I called for help, intreating them to cut the pulse vein on my left temple, which crying and calling, I continued for ten dayes, those that heard my outcries, suposed I did out of impatience, for the which none would hearken unto my cries; but I continued still with my lamentation, hoping one or other would take pittie on me: At last my friends considered of my cries, and promised in case any one would undertake the cutting of the pulse vein, they would then consent unto my demand; I thanked God that my cries were heard, and my pulse vein to be cut: then came that famous and conscionable Dr. *Cennad Gesner*, comforted me and my familie, and advised that my pulse vein should be opened, then returned I thanks to God again, who put this counsell into his heart: then was I asked, what means should be used for the stenching of that blood, and incision; I gave directions to the Surgeons then present, that my friend and Brother in Law, *John Waser* should make the incision, he took it in hand, and by my leave, and all the Master Surgeons then present placed me on the beds side, and made the incision at twice cutting, the wound bledded vehemently, before he laid down the incision knife, I found my self better, for the which the Lord be praised for ever: thereby was I delivered from all my pains, and being drest according to the direction I gave, I lost nere another drop of blood; after that I felt my self better in my head, than ever I was in my life, as long as I could remember. To the Lord be Praise, Honour and Glory, for evermore: Amen.

Dr. Gesner advised for an incision.

John Waser makes the incision.

Some Country fashion, about the winding their Children into clouts, and to lay them down in the Cradle.

It is the fashion in some Countries, that when they intend to lie their Children to sleep; they lay them on a Table on a great pillow, and have their woven or hemmed linnen swadling clothes, whereby they bind the Child into the clouts, from the arms downwards, but others begin from below, and bind along upward, and on the Cradle they are lain, whereby the inlaid Child is packed up like a pack of Wares; this I do not much mislike, provided the Child be not tyed or pack'd too hard.

In other places, Nurfes or Mothers take Children into their lap, wrap the Child into a woollen cloth, after they have wrapped them first into small linnen clouts, binding arms and hands down, and begin in their tying from above downward; but this I approve not so well of, as of the former way, because these clouts fall thicker, cause uneasiness to Children, of the which more shall be said afterward; how Children are hurt thereby: having bound and wrapped the Child thus, then they lay it in the Cradle, and tye it once more.

Others lay their Children only in clouts into the Cradle, over that a piece of woollen cloth, or a piece of a ragg, and so tye it to the Cradle, from hole to hole in the Cradle, which they tye very hard; for if they should not do so, they beleeve their Child would not stay in the Cradle; even as the former too, which tye their Children once before they put it into the Cradle, and when it is put into, then tie it once more: however let these things be done so, that with their strong binding they do no hurt to the Child, for such hard binding any aged body would hardly endure about his breast or heart: I am assured that by such hard binding, great and anguishing pain is caused in their sleep, as you heard also above, about the sleeping on the back.

Of crooked and lame Children, coming thus into the World.

It hapneth that a Child is born with crooked feet, placed and pressed one upon another, and must go on the ancles if they can ; they usually say, that such lame births are caused by frights, strange sights, or by carelesness, which also Nurses have to answer for. These defects they say usually are incurable ; it agreeth with that saying, no body maketh himself crooked. These idle pratings causeth careless and lazy people, pretending, if my lame Child cannot be cured, why should I be at expences or taking of pains. It is a base and false excuse, because experience proveth it to be otherwise. To liken this to an example, many have eaten from that Trees fruit, which they nursed by putting the kernell into the ground ; my self have eaten the fruit of a Tree, six yeers after I put the kernell thereof into the ground. Even so is it with lame Children, some whereof I cured so, that after some yeers I saw them go straight. Let no man be neglective if his Child be thus crooked, as not to ask counsel about it ; though all be not recovered which are in such cases, yet many are cured, and if not perfectly, yet may they be mended in some sort ; the which I do demonstrate with examples. I have dressed a new born Child, and ordered it with splinters as I thought fitting, whose feet from his Mothers wombe stood so, that the Child stood on the outside ancle, which with splinters I brought to right, and that Child went as straight as any other.

I have cured Children, whose thumbs and other fingers, have lain in their hands for many years, tyed them outward, but did not break the joints, as they usually say, that they must be broken again, wick is false, and he that saith so discovereth his filliness in Surgerie ; they ought not to be broken, but gently and stedily be placed right : for if a Child be put to pains in that kind, the joint will be inflamed thereby, and the case made worse and more painfull, than it was formerly. My advice is, that none should at-

No crooked joint ought to be broken, but plainly to be set right.

tempt to break, nor permit any to do or undertake the doing of it rashly; and if you meet with one that give reasons, the thing might be done without pains, and that in such a way the cure might be performed, then follow his advice: but he that saith that first of all such joints must be fomented, bathed, annointed, he goeth the contrary way to work, for thereby the joint is not made soft but stiffer. But if Childrens ancles, kees, feet, fingers, &c. are so hard and ugly, that they must be first of all mollified, then such medicines may do something. And so I speak here not of all, but of such which are curable,

How to set
and dresse
crooked
joints.

Therefore observe, whether that joint doth bow and turn easily to the place where it should be, then bind it that way, and cure it. Some of such joints will easily turn and bow, but that is not enough; binding is for such a joint the better, the growing whereof bringeth forward the cure, and not the bowing or setting; the bowing of it is good, but it is not all, but it must be set and laid right also, then the one helps the other, and the growth in time is brought on: though little amendment is seen in a week, moneth, or three moneths, yet a whole years time may produce something, and in time perfectness comes in. But how to set and bind crooked joints, is not possible to set down every particular thereof, the Surgeon must take notice and observe, which way his splinters and other things will sit best.

Some joints
are bound
hard, some
slack.

No splinter must be too close applyed here, neither must they be bound too hard; if too hard, and the Child cryeth out by reason of the pains it feels, then instantly tie it slacker, for such pains would cause great mischief: therefore bind such joints softly and gently, according to the place. For a foot is and must be tyed more strongly than a hand, and a hand can endure a band more strongly tyed than a finger: conceive thus of the rest of the joints. The stronger the joint is, the better is it able to endure a stronger band: and again the less a joint is, the worse it can endure a band.

You

You are to observe exactly, when there cometh into any joint, pains, redness, smartings, blewishness or collositie, a swelling or the like symptome, then is it very hurtful and dangerous; for then you have bound it too hard, unbind it presently, the Childs welfare lyeth herein, if not his life: for these joints cannot endure any pain; this you ought to take good notice of.

This is my faithful advice, that you do not deal too hard with it, at the first you ought to bind it gently, then you may soon perceave, whether you are or may proceed further and more hard in it. For in such cases Surgeons must not presently go on, as they ought to do in fracture bindings; in case it doth fit here the first time, then you are to let it rest, and not to trouble your self nor the Child any further, if it fitteth well at the first time, then go on, in few weeks you will perceave the amendment thereof, you may alter the band as the defect requireth.

When you are to dresse a Childs crooked joint, then take my red plaister, which groweth stiff and hard, sticketh closely, and as you measured your splinters, then take the Plaister spread on a cloth, apply it on the splinters, that it may stick thereunto, and cover the splinter well in the inside, then that band holdeth fast; for it keepeth the splinters so fast together, as a Saddle holds firmly which is glued together. The overplus of the Plaister, which goeth or runneth beyond the splinters, you cut off and spread the Plaister there on the splinters, as you use to do at a fracture dressing with splintures spread with the Plaister, then apply a Plaister to the same joint, yet not so close together as to have them laid one on another, as I advised you in my second part of Surgerie touching bone fractures: in fractures it must not be laid so close together, as in these little joints, because these joints neither swell nor consume, if pulled not too hard but gently: it is better they be bound slack a whole week, than too hard one hour. Then apply your measured splinters, you need but two, and not three, four, or more, which other fractures require. Then bind this joint as it fitteth in the bowing, and let it rest thus bound.

bound ten or fourteen daies, as you see occasion: you need not to fear any symptom here, if you bound it not too hard, nor too untimely, and do as you did formerly; if the case be altered and mended, then your splinters and binders must be accordingly altered: and there is not any Craft worse to be described than even this, as how one should prepare, keep and behave him in his splinters and bands, it is a thing almost impossible: I have often practised it, and had good success therein; God be praised for ever: Amen.

The whole business and manuals are comprehended in these Verses.

*Have a care you bind the Joint not too hard,
then surely is done neither hurt nor smart.
Do not begrudge your time at all,
a timely cure on the party will fall.
Be exact with your tying and setting,
then the crooked Joint will right come in.
Give not over, be wilking, not timorous,
the Joint grow'th right as a twick most curious.*

*Of crooked and dislocated Leggs, caused by careless layings,
and of their cure.*

I have seen Children born straight, yet became lame and crooked, and could not be healed straight again; their Mothers or Nurses told me of the manner, how they became to be thus lame and crooked: I bid them many times to untie the Child, and to tie and bind it again, to see the manner of it; where I then quickly perceived, in what they had missed, which was done and committed in binding, as I spoke of it above: for they lying the Child in their lap, and toward the feet binding it so, that the Childs knees comes together in lying, and puts some Boulsters betwixt, and will not leave the birth as God hath created it, will have their Children yet handsomer, by binding them straighter to their thinking; tye and bind them more crooked,

ed, doing it too hard, which maketh the Child unquiet, turns and winds himself so long, till he gets somewhat loose, in this way the Child groweth like a twigg, according as it was tyed. But by the help of God the like cases may be remedied, and my self have done many such cures, when Children were spoiled with such untoward bindings, and had carryed it on above sixteen years long; as long as they are growing, so long are they in the state to be mended and set straighter: when Children are bound straight with strong binding, then they usually grow crooked; and none will grow more straight in his body, than those which are laid free and loose with their hands and feet: therefore my advice is, not to use any curiosities at the laying and binding your Children, unless there be some miscreance, or other unshapedness about them, then is it reason and time to advise with good Surgeons, who will tell you how these faults are to be ordered and mended, and let not people follow onely their own counsel and fancies.

Some reply here; I am faine to tie and bind my Child hard, by reason of his scabbie feet, if I do not so, then it rubs them together, and maketh them smart, and then it cannot be quieted.

Others which have no skill how to bind them right, say, though I bind my Child hard, yet it slideth and slippeth out of the band, which causeth me to wrap and bind it harder: these neither mind nor care what or how they go about it, nor know how they should do it, neither will they advise with others about it, but go on obstinately in their ill accustomed waies; binding their Childrens shins together, making them lame and creeple. Therefore I advise you to take better course in these bindings, and chiefly above about the breast and heart, not to put Children to miseries that way.

Further I counsell Mothers and Nurses not to bind their clouts too strongly together at the end of their feet, which maketh Children lame in their going or standing. If Childrens shoulders are left open or uncovered, it is great hurt to them, by reason of the pores, which are more open than
 What hurts Children gets, if not covered about the shoulders: aged

aged peoples, because their skin is very tender : it is a pain to them all night long, especially in frosty nights, and when they come to age, they are full of rheums, have heavy arms, and grow lame in their hands, shoulders, elbowes, and about the upper parts of the body, about the head, the eyes, the sinews all the body over, in their hearing, and pains in their back bone. Never more complaints made by men but about such lamenesses, when they took cold in their young years, lying thus uncovered in their Cradles.

A fit garment for Children to wear in their Cradles.

To prevent these several inconveniences and hurts incident to Children, my advice is, that Childrens caps and sleeves should be all of one piece, or sowed together : for a cap of it self, and sleeves apart, though they cover the parts they are made for, yet the Child is not all covered that way : but if cap and sleeves be sowed together, as one piece, it is the best way : though the Child pulls his hand out of the Cradle, yet are his shoulders covered ; and cover the heart and stomach of the Child the better, and his clothes must be made the wider, that they may fall one over another, and lye double.

This in my opinion, is a proper garment for a Child to lay in, in the Cradle, then there is no need of the strong band above about the body, and are thus best covered and guarded from cold. And that you may not need to tie the Child too strong about the feet, then take great and long clouts, which may go about the feet twice double, and lay other linnen between the ancles to keep them assunder : and if you will not bind the Child, yet lye it warm, so that the feet may not touch nor rub one against another : if such great and long linnen may not be had of every one, then let them use other clouts, provided they cut off the ravelings about them, which tickle the skin, and cause a rubbing.

To cast up Children and catch them is an ill fashion.

Some people hath that ill and base custome, they sling with one hand the Child upward, and catch it with the other, which can cause no other, but that such Children usually take frightnings in their sleep, because that dancing in the Nurfes hands comes to them in their sleep by imagination,

nation, thinking they are leaping or jumping in their Nurses hands. The like befalls aged people, who having been on a dangerous tempestious Sea, in their sleep they are horribly frightened, thinking they are in that dangerous Sea still.

Though Children are not so much frightened by that dancing, yet there are other sports for them to be dallyed withall, for it falls out sometimes, that Children in that dancing are let fall, which can it be done without hurt unto the Child? I have seen a Father taking his little boy by the shoulder, and threw him upward, the sport pleased the boy very well, desired his Father to do it again and again; this pastime pleased Father and Son for a while, but one time the boy being flung too high, and turning in that flinging came out of his Fathers reach, fell down behind his Father, who was not able to stay him then in his fall. This sport was turned into lamentation.

Some daunce their Children on their lap, with their legs outstretched, and these regard not the tenderness of their legs and sinewes; in that way of dancing these little ones may easily receive hurt. After such dancing they lay the Child down, when the next day the Child is taken up, then is it sore, cryeth, cannot endure such dallying, or be toucht or carryed about: then they say, I wonder what aileth my Child, I laid it last night well and sound into the Cradle, and was cheerfull, and could dance in my lap, now it cryeth, if I do but touch it: thus they blame the innocent Child, when themselves are in fault. Then they bring it to the Surgeon, saying, pray see what my Child aileth, for it can neither stand nor go, and yet nothing is seen about it, no sign or spot at all about his skin. I cannot conceive what hurt it should have received; I fear it is bewitched, &c. If a Surgeon saith some tuxation hath befallen this Child, or it is handled roughly, or hath been over playd: they reply, Oh no! our Child was not hurt of us; and will not confesse their apish play: if they would confesse their fault, then their Child might the sooner be cured. My advice is this, use no apish tricks to your Children, let

A warning
against dan-
cing chil-
too much
on the knee
or lap.

them keep that health, which God hath bestowed on them, not to pull or to hale them from one place to another, with dancing, jumping, juggling, &c. and playing, like as the Cat doth with a Mouse: for these tricks wrongeth Children so much, that when full grown, it is seen then what hard shifts they are put to, to do their works.

The like befell my eldest Son, it is a pitty, and all those that know him do pitty him; for he is quite disabled to do any work, and must continue so as long as he liveth, onely upon such an accident as I told now; which held him to the twelfth year of his age, and it was concealed from me that he had it from such dancing: if they had confessed it in time, that with that kind of sporting it was caused, then by Gods assistance I might have cured him.

At this present I cease to write any more of such apish tricks, juggling, jumpings, which they practise upon Children; and who can rehearse all the hurts done thereby unto them? the one gets a lameness by that jumping, and dancing, another is put into frights which is seen and observed at night; and some are quite put to Convulsion fits; another looseth his sight; another his hearing; and many other hurts are done by several such tricks, which I forbear to relate, for fear they should be practised.

Sometimes I found a fracture on a Childs leggs, or arm, or a crack; and when I said the Child received this or that hurt, and talking to them of it which had the oversight, they durst not confess how the Child was hurt, fearing their Masters and Mistresses displeasure, when the Child was cured, then the neighbours Children would say, how the Child was hurt at such a time. Sometimes they cannot tell what the Child saith, though it hath received hurt from another; and those Nurses or Maids which were to look to the Children, though they outstand it most that the Child was not hurt, were found to be the onely fault of that hurt the Child received; but when they saw the Child do well, and was cured, then they bewray it, what hitherto they have kept close. Children when carryed about, may soon be hurt in such a manner, that they can never be helped again.

In some places Children are carryed about in mantles, or Table clothes, as at *Bambury* and *Forchheim* I have seen it: in this way Children may be hurt least, if carryed onely in the arm, and steneke'd up and down by lazy Maids are easily hurt in that manner. I have espyed the like mischiefs done to Children by such rude carrying, but durst not reprove them for it, these impudent wenches would have outfaced me therein. Some Childrens back bone have I seen crackt in two, and the verticles thereof were disjoyned, and removed so far, that they could never be brought together again, or if joyned, could not be kept so long, if that once hapneth to Children, then they go bowed, and their head almost between their thighs, or else they halt or limp on both sides. This comes from a careless carrying Children abroad and about.

Children are hurt by untoward carrying of them.

Therefore be warned, not to carry Children abroad too soon, before his back bone and sinewes be strong enough; unless the party that is to carry it, knoweth well to handle a Child in carrying, and to stay the Childs back with her hand; let it be carryed as well as it may, yet it soon falls out that a Child gets a division or strain in the back, which may prove a great inconvenience to the Child. Little Maids are sometimes intrusted to carry a Child, a Child overturning himself or lencing backward, that girle is not able to stay the Child, by this means little Children may soon get hurt.

When children ought to be carryed on arms.

Children commonly are carryed on one arm, as those usually do, which are wont to carry onely on the right arm, and never change the child from the right to the left side, or arm, and again from that to the right arm, the which is hurtfull also unto children: for I know, that when children are carryed onely on one side, then that legg lyeth closer to the body than the other, and is caused to grow crooked, even as a twigg on a tree, which is bowed either straight or crooked.

Children not to be carryed always on one side.

Therefore let children be changed from one side to the other in the carrying to day on this, and to morrow on that side, and not still on one alone.

To govern
children in
their sitting.

Some Mothers have the custome, that they place their children by times in a stool, purposely made. Others let their child sit in the elders childs lap. Others place their child with clouts into a tub. Be it in what manner it will, I advise no body to use his child too soon to sitting, because the childs body above is heavier than his neither part, and all the weight of it lyeth on his back. Some children are weaker in their backs and sinewes than others; therefore it is not adviseable to place children too soon into stooles, or other sitting places. To set it upright in the cradle, and to lay his back withal, or to place it on a pillow near the harth or chimney, is the better way. The longer you stay with the child in that kind, the better strength it gets, even in sitting before another child. As we see a twigg inoculated this year, groweth as fast as that which was ingrafted the other year before that. The same condition it hath with a child, his back groweth strong in that time, and the less danger is it subject unto, which if too soon used to sitting, parents must still be afraid that it will take hurt. Though a child is able to sit, yet for many reasons, it is naught for it, to have it sit long.

Therefore as I mentioned above, the child is to be laid on the back, and let it lye so untied or bound playing; this way is best for such children, which are not agazed at their feet and hands, when they thus play on their back; but if they be so young, that their own feet or hands may terrifie them, then they ought not to be laid unbound or open.

The Raising
of children.

Touching the standing of children, there are stools for children to stand in, in which they can turn round any way, when Mothers or Nurses see them in it, then they care no more for the child, let it alone, go about their own business, supposing the child to be well provided, but they little think on the pain and miserie the poor child is in, in that standing. Take an example from an aged man, which standeth but an hour in a place, either in the pulpit or else where, that time seems long to them; what shall we think of the poor child, which must stand may be many hours, whereas half an hour

hour standing is too long for such a child. I wish that all such standing stools were burn'd, and that never any were made, by reason of the great misery that Children endure from such standing: for I hold these stools a meer prison, or stocks for poor Infants; I do wonder many times, what merciless fool that was, who invented that rack at first, to make a Child stand above an hour in that tub. I found many times, that when such Children overstood themselves in that tub, sunck down where they lay a long time, and there they lost their strength, which were brought to me afterward to recover and cure them: Children should not be made stand on their feet, before they are half a years old, and be strong enough in their sinewes; and coming from such a cure, they must rest half a year, then they grow strong again, and Nature will be aiding unto them, neither is there any medicine to be used, onely they must be kept warm and quiet. I made use sometimes of Oxycroceum plaister, and three moneths after I made a warm Bath, put them in, thereby I recovered them to their full strength. Children that are forced to such standing, commonly grow lame, and limp on both sides. I never saw any good done, when children were taught to stand or to go, before they had any sufficient strength to it: my advise is, not to put Children to soon upon standing, but if Nature be forward in them, then they may venture the sooner.

There are running stools for Children made, in which Childrens they do not onely stand, but go also; in these stools the running Children can hold out longer, because they can stir and move in them.

I must speak also a word or two about the covering of childrens faces to keep off the flies from them. Some lay a white cloth over them; others doubles such clothes, enough to stifle the child under it, which in my opinion is an ill custome; Others set bowes over the cradle and hang clothes over them, which I hold to be good, because the children are not touched by the clothes that are hangged over, neither can they well be frightned by them: these please me the better, if the clothes hangged over are

so thin , that the chilrens breath can have way to go thorough, and if such clothes be either of a blew or green dye, they are the better for their eye sight : pure Scrafes or Tiffinies are good for that purpose.

Overspread
clothes.

Some careless people doth not cover their chilrens faces at all ; if done out of neglect and carelesness, are worthy of reproof.

Thus much of chilrens infirmities. Let all be to Gods Glory, and the good of Children : Amen.

FINIS,

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